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From Dr Wm Currie to his friend
Wm Mendenhall

A SKETCH
OF THE
RISE AND PROGRESS
OF THE
YELLOW FEVER,
AND OF THE
PROCEEDINGS OF THE BOARD OF HEALTH,
IN PHILADELPHIA,
In the Year 1799:
TO WHICH IS ADDED,
A Collection of Facts and Observations
RESPECTING THE
ORIGIN OF THE YELLOW FEVER
IN THIS COUNTRY; 14.863
AND
A REVIEW OF THE DIFFERENT MODES
OF TREATING IT.

Br WILLIAM CURRIE, ✓
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MEMBER OF THE AMERICAN PHILOSOPHICAL SOCIETY, &c.

“ Though prejudice in narrow minds,
The mental eye of reason blinds;
Though wit, which not e’en friends will spare,
Affect the sneering, laughing air;
Though DULLNESS, in her monkish gown,
Display the wisdom of a frown;
Yet TRUTH will force herself, in spite
Of all their efforts, into light.”

PHILADELPHIA:
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P R E F A C E.

MY principal design in the present publication, is to establish the truth respecting the origin of the yellow fever in this country; and, to communicate what appears to me to be an improvement, in the treatment of that dangerous malady.

The intelligent reader will perceive, that the present performance contains some sentiments in some respects different from those I formerly entertained, and particularly with respect to the identity of the yellow fever with that of the typhus gravior or common malignant fever of camps and hospitals: I therefore beg leave to remind him, that knowledge must necessarily be progressive on new and intricate subjects; and that since my former publications, additional observations and more ample and accurate views, have afforded me more correct ideas on the subject.

It is my sincere wish that all ambiguity should be removed, and the truth established independent of every other consideration : if therefore any material mistakes should be discovered in the following pages, I shall esteem the correction of them as an act of friendship ; for I consider the situation of a man to be singularly unfortunate, who, while he is seeking to enlighten others, is walking in the dark himself.

With those sentiments, and this disposition, the present production is dedicated to the candid and intelligent part of the community,

By the AUTHOR.

A SKETCH, &c.

THE first cases of the pestilential or yellow fever that occurred last year in Philadelphia, were in the neighbourhood of Messrs. Willing and Francis's wharf, between Pine and Lombard-streets, near the southern boundary of the city: and in southwark, in the neighbourhood of the still-house wharf, within a few paces of the Swedes church.

The first cases that have come to my knowledge in the neighbourhood of the first mentioned wharf, were the following, viz. A young woman at No. 17, about the 15th or 16th of June; Mr. Ashmead, a little lower down in Front-street, on the 17th, who died on the 23d. Mr. Thomas, who had been on board a vessel from Curracoa, and came from the quarantine ground the 15th, was taken ill with the fever on the 17th. A shoemaker's boy, on the 21st, was moved from Southwark to Arch near Seventh-street and there died. Mr. John

M'Donald, who lodged near Messrs. Willing and Francis's wharf, at No. 17, Penn-street, directly back of the wharf, was attacked on the 24th and died on the 29th. The mate of a snow from Hamburgh, at that time lying at the same wharf, was also taken with the fever on the 24th and died on the 29th.

The next cases in the order of time that occurred in the neighbourhood of that wharf, were, a young woman at Mr. Samuel Rhoads's, on the 25th, who died on the 30th: Mr. Smith, who had been on board of two vessels at the wharf, on the 27th: Captain Ross's daughter on the 28th, and his wife about the first of July: Mr. Thomas Cuthbert on the 27th or 28th of June. Mr. James Smith's son, in Lombard-street, who had been on the wharf marking casks belonging to the Hamburgh snow, was attacked on the 28th of June. Several other cases occurred in the same neighbourhood a few days later; and from those the disease gradually spread into different parts of the city.

A small sloop called the Molly, prize to the Ganges, had lain at the wharf near the place where the first cases of the fever commenced, from the 13th of May. Her cargo, consisting chiefly of coffee, was landed and stored near the wharf early in June: her hatches were kept shut till the 21st of June, at which time they were opened on ac-

count of the stench proceeding from her, and according to the account of Samuel Fisher, who had the care of her, 500 buckets of water were thrown into her to clean and sweeten her. The bedding of some of the seamen that came in her, were left on board: the prize master and seamen that brought her in had left her. She was employed trading from Turk's island to St. Domingo, at the time of her capture. No persons were then sick on board, nor did any one become sick while navigating her into port. The prize master became sick soon after her arrival, but I have not learned what became of him.

Near this sloop lay a snow from Hamburgh, the mate and cook, and one of the seamen of which sickened soon after the hatches of the Molly were opened, and two of them died with malignant symptoms, the other recovered. Mr. Smith's son was near the sloop marking casks less than a week before his attack: he recovered. During the time the sloop lay at Messrs. Willing and Francis's wharf, the ship *Amiable-Creole*, from Havanna, arrived at the city, and came to at the wharf next to Willing and Francis's, called Nixon's wharf. Respecting this last vessel I have been able to obtain no satisfactory information. Mr. Hollingworth's lighters also landed the cargoes of several vessels from the West Indies, while under quaran-

time, upon or near the same wharf, at different times in the early part of June.

The first cases in the order of time that occurred in the neighbourhood of the still-house wharf, were two boys belonging to the *Eliza* from Leghorn. These boys were attacked with malignant symptoms on the 24th of June, and sent down to the Marine Hospital, where one of them died. Mr. Shortall, the owner of the still-house wharf, was taken ill with the fever about the 26th of June, and with difficulty recovered. James Arthur, Brady and M'Clary, worked in the loft of the still-house. Arthur was taken ill on the 29th of June, and died with symptoms of high malignity and very yellow skin, in six days. Brady and M'Clary were taken ill a few days later. Brady died—M'Clary recovered.

Mrs. Burk and her husband visited Mr. Shortall during his illness : Mrs. Burk was taken ill with fever on the 2d of July ; her nurse, little son, and an apprentice boy, a few days later—the apprentice died ; the other three recovered.

The *Eliza* was removed on the 21st of June to Mr. M'Cullough's wharf, at Queen-street, a short square above the still-house, for the purpose of receiving repairs. Mr. M'Cullough's son was attack-

ed a few days after, and several in the same family in less than two weeks.

At the time the *Eliza* came to the still-house wharf, which was on the 19th of June, two vessels lately arrived from the West Indies lay at it, the one a schooner called the *Minerva*, on the 9th, the other a brigantine called the *Abigail*, on the 17th of June. These being nearest the shore, the *Eliza* took her station along side of them. Mr. Green, in a small sloop with naval stores from North Carolina, came to the same wharf before the *Eliza* left it. The vessel commanded by Mr. Green left the wharf the 23d or 24th of June, and proceeded on her homeward voyage, but was forced, on account of sickness which had seized himself and crew, to put into Milford, on Muskmellon creek in Delaware state, about 100 miles from Philadelphia, where the master, one hand and a passenger died, and only one recovered. The dates of the preceding account are taken from Mr. Shortall's wharf book.

The College of Physicians held a special meeting on the 28th of June, and agreed to inform the Board of Health, that a malignant fever of the same nature as that which occurred in Philadelphia in the years 1793, 1797 and 1798, had appeared in Penn-street and its vicinity, and recommended

the removal of all vessels as well as the inhabitants from that neighbourhood, and the prevention of intercourse between the inhabitants of the infected parts and those that were still healthy, which at that time was the case with every part of the city to the north of Spruce and west of Front-street.

On the 2d of July the College received an answer from the Board of Health, informing them that they could not coincide in sentiment with them, regarding the propriety of issuing a proclamation, or giving directions for the removal of the inhabitants from the part of the town they had specified, or the vessels from the wharves adjoining, because such public notification would perhaps excite a terror, that might add to the predisposing cause of the disease, if any such existed. They were convinced of the necessity of early precaution, but they also dreaded to give an alarm which must injuriously affect the welfare of the city, and which might perhaps eventually be unnecessary; the consequence of which as it regarded the health was doubtful, but which would certainly operate powerfully against the interest of the citizens.

Though a few cases of the yellow fever occurred before the middle of June, its progress was so slow, that only twenty-two cases had come to the knowledge of all the members of the College of Physicians from that time to the 6th of July. That

the Board of Health might not be deceived, and the citizens lulled to a fatal security by this circumstance, one of the members of the College sent them the following letter.

“ TO THE BOARD OF HEALTH.

“ *July 11th, '99.*

“ GENTLEMEN,

“ I expect you all recollect, that every time the pestilential or yellow fever has occurred in this city, since the year 1793, it has made its first appearance near some one of the wharves of the city on the Delaware, and that it has been confined for the first week or more to the particular neighbourhood where it was first observed, or to persons whose occupations led them to frequent that particular part, or had business with vessels or cargoes recently arrived ; and that after the death or recovery of those first attacked, it has made a remarkable though a partial pause, after which it has gradually spread or been conveyed into more distant parts, and has rapidly advanced with the advancing season.

“ This having been the state of the rise and progress of the fever in former years, what reason have we to expect a different event this year ?

“ We learn from past observations, that a certain condition of the atmosphere must concur with

the matter of contagion, before the disease can be communicated from one to another, or be propagated by contagion (which is the only way it can be propagated.) What that precise condition of the atmosphere is, which favours the communication of the disease from one to another, has not yet been unequivocally ascertained ; but from the circumstance of the disease not being communicated in high, dry, open and airy situations in the country, during the season when it is most highly so in the city, which is a fact, with a few extraordinary exceptions, well established, it amounts to a degree of probability almost equal to certainty, that the atmosphere where the disease prevails and is readily communicated from one to another, must not only be of a certain temperature, but at the same time calm, confined or motionless, and, perhaps contaminated with exhalations from putrefying vegetable or animal substances, or from living animal bodies deprived of fresh and purer air in close and confined situations, which render it a fit conductor for the matter of contagion, at the same time that the air thus contaminated, by impairing the inherent powers of the body, predisposes it to be more easily acted upon by the contagion, not only of pestilential, but of ship, hospital, jail, or nervous fevers.

“ A few cases of the yellow fever have certainly appeared in the lower part of this city already this season, amounting in the whole, exclusive of

ambiguous ones, to twenty-one; and of these twenty-one, eleven have died. The existing cases at present are indeed very few; and if we could depend upon the continuance of the pure and fluctuating state of the atmosphere in the city which at present prevails, there would be no serious cause of apprehension. But as it is impossible to judge with any degree of certainty, in so changeable a climate, how long the present state of the atmosphere, so unfavourable to the operation of contagion, may continue; and as there is the strongest reason to expect the revival and propagation of the disease with all its complicated horrors, if an unfavourable change should take place in the atmosphere, while any of the matter of contagion remains, however small in quantity, and however obscurely it may lurk, or if it should by any means be again introduced: and, believing that the safety of the citizens, and perhaps the future prosperity of the city, depend upon the measures you may devise or adopt for averting a calamity so awfully distressing, I beg leave to offer to your serious consideration the following account of the means employed with the greatest success, in other countries, for preventing pestilential fevers from spreading or becoming epidemic.

“ The magistrates of the city of Ferrara in Italy, when all the surrounding country was infected with a pestilential fever, observing the ill success of the

conduct of their neighbours, who, *for fear of losing their commerce*, did all they could to conceal the disease, by keeping the sick in their houses; resolved, whenever occasion should require, to take a different method: accordingly, as soon as they discovered that any person had died in their city of the disease, they immediately removed the whole family to which he belonged, or in which he died, to a safe distance from the city."

"The example of Ferrara was afterwards followed by other towns in the same territory with the same success. In consequence of which it was thought expedient to issue a proclamation for the information of the whole world: "That the only means of preventing pestilential diseases from spreading or becoming epidemic, is to make the most early discovery of the disease that is possible; and as soon as its existence is ascertained, to remove without delay, and without respect of persons, every suspicious case thereof, together with the family in which he resides, and every person in the same house, with all their goods, furniture and apparel, to a safe distance from the city, and to clean and purify the vacated dwellings before any person be permitted to reoccupy them."

"In addition to the above regulations, Dr. Ruffel, who published an elaborate and voluminous treatise on the plague in the year 1791, advises, that all

who have had intercourse with the sick, or who have been exposed to infected articles, whether intentionally or not, be also compelled to leave the place where the disease has begun to appear, for a certain time.—“ To permit the infected to remain in a populous city, is to collect magazines of contagion, sooner or later to be distributed into every quarter, and of course to convert a whole city into a theatre of disease and death.”

“ By the strict observance of those regulations, Cardinal Gastaldi, who was appointed commissary general of health, with discretionary and unlimited powers, suppressed the plague at Rome in the year 1657, after the disease had made considerable progress. The Cardinal’s rigorous proceedings at first excited great popular discontent and clamour ; but as he acted with impartiality, and his proceedings succeeded, he afterwards received the public thanks.

“ In the year 1720, the plague was suspended at Marseilles by similar means for some weeks, and, no doubt, would have been entirely extinguished, if cases had not been permitted to multiply, owing to this deceitful pause, a circumstance which gave occasion to the populace to treat the physicians and surgeons with indignity, for creating what they supposed a false alarm.—In consequence of this

conduct the disease made too great progress to be afterwards suppressed.

“ I shall now conclude with observing, that if any reliance is to be placed on past events, unless you adopt the most vigorous measures for preventing it, the disease will revive, and compel the citizens to consult their safety in flight ; an event so ruinous to the interest and prosperity of the city, that it requires no great sagacity to foresee its final depopulation, as the inhabitants cannot possibly support such sacrifices many years, as they have been forced to make of late. On your management and exertions, therefore, we rely, under Providence, for our preservation from so deplorable an event ; and I trust we shall not be disappointed.

“ The interest and deep concern I take, in common with yourselves, in the welfare of our fellow-citizens, I hope, will apologize for the intrusion and trouble which has now, as well as heretofore, been given you, by

Your most respectful,

And very humble servant,

“ _____ ”

In the mean time the Board had written and transmitted a letter to the Board of Health of Baltimore, of which the following is a copy.

“ HEALTH-OFFICE.

“ *Philadelphia, 7th Mo. 10. 1799.*

“ GENTLEMEN,

“ Your friendly communication under date of the 6th inst. is at hand. We are happy in having an opportunity of contradicting the injurious reports regarding the health of this city : reports which fear has industriously diffused and greatly magnified. They originated from several persons in one square of the city having become sick. Persons who had no acquaintance or connexion with each other ; each of whose indisposition can be attributed to distinct and different causes sufficient to have produced that effect ; causes which would have operated similarly in every country and situation equally warm. Their families, nurses, and attendants continue well, neither has any new case of sickness occurred in the neighbourhood for ten days past, from which circumstances the alarm has entirely subsided.

“ We accept your proposal of correspondence with pleasure, and shall cheerfully give every information of the health of our city, together with the probable cause which may have produced sickness, should it at any period exist.

“ Every exertion is using among us to avert so dreadful a calamity ; and we cannot but hope with

you, that, together with yourselves, we shall, through divine assistance, succeed in our endeavours.

“ *By order of the Board of Health,*

“ EDWARD GARRIGUES, Pref.

“ To the Board of Health, for }
the city of Baltimore.” }

Examples in other countries of the influence of local and commercial interest over official duty, are common. No one is willing to believe the destroyer is at work, lest business should be suspended and the interest of the city suffer. Time and temper are wasted on the question, “ how and whence does “ it come ? ” Every one endeavours to persuade himself and his neighbour that it is not come, till he discovers it at his own door. Every one is offended with him who pronounces the disagreeable truth. Circumstances are sifted, and the first victims to the dreaded disease are proclaimed to have perished by other disorders. The physicians are looked at with impatience and resentment, and though they are in no danger of being torn to pieces in this country by the populace, as they were in Moscow in the year 1771, for telling them the plague had got among them, it was proposed to drive them out of the city, or to throw them into the river, not by the populace, but by certain popular characters possessed of more zeal than knowledge.

The prize sloop already mentioned, was ordered by the Board of Health to the quarantine ground, and fell down on the 29th of June as far as South-street, where she remained till the 1st of July. She then hauled out and proceeded to her place of destination.

The fever had been dreadfully mortal at the Havanna, before its appearance in Philadelphia, as appears from the letter of Mr. Iznardi, Consul for the United States at that port, published in several of the news-papers.

The Amiable-Creole from Havanna, lay in the neighbourhood where the fever commenced, as well as the prize sloop already referred to. Goods from the same sickly port were also frequently landed at the same place, by the lighters already mentioned.

It is also notorious, that the quarantine was repeatedly violated, by persons coming up from vessels under quarantine in the night, and returning on board before morning. Seven persons from the city, at a later period, were detected going to the vessels, and were confined fifteen days on State island by the Board of Health. Trespasses of this nature might be prevented by the establishment of a night watch. I have been assured by a wharf builder of respectability, that the master of a ves-

fel from New England, but last from the West Indies, eluded the quarantine by swearing he was lately from New England.

A list of the deaths in the city and liberties was published in one of the papers the 10th of July, from which it appears, that the average number had been for some time about six a day.

About the 12th of July a few fresh cases occurred in Penn, Little Water, Queen-street, and in the neighbourhood of the still-house wharf. The alarm which had nearly subsided began to revive again. The Board of Health, in consequence of this fresh alarm, wrote to the physicians, requesting a return of all the cases under their care.

On the 15th of July, Harden a Stevedore and a man of the name of Pineyard were known to be dangerously ill in different families in Queen near Water-street; Mrs. Arnold and Mr. Ross's daughter, in Penn-street; Mr. Lawrence, a cooper, brother to the gauger, in Water above Market-street; and Banner Thomas, in Front below Christian-street, dangerously ill. A fresh case of fever occurred the 17th, at the corner of Queen and Water-streets. From this time very few fresh cases were observed till the 22d; on this day a lad that lived at Downs's, who had died some days before, in Little Water-street east of Penn-street, was taken ill.

There were nineteen funerals in the city and liberties on the 17th, including two from accidents, viz. eight adults and eleven children. From the 17th to the 23d of the month, several persons were attacked in the neighbourhood of Front, Lombard and Penn-streets, in the families of Mr. Bridges, Mrs. Woods, Mr. Blackison and Mr. Thomas. Several persons were attacked in succession, at sufficiently long intervals to justify a conclusion that the disease was contagious, especially as several other families in the same neighbourhood were entirely exempt, which would not have been probable if the disease had arisen from noxious exhalations floating in the atmosphere.

A lady moved from Penn-street to Wilmington early in July, and died there of the fever, but did not communicate the disease to any other person.

A journeyman shoemaker who resided at Downs's, died of the disease in Little Water-street the latter end of July, a few days after Downs's lad.

The whole number of deaths on the 29th of July, amounted only to nine, seven of which were at the City-hospital.

The Board of Health received official information the beginning of August, of the existence of the yellow fever in New York.

For the letter of the Board of Health of Philadelphia to that of Boston, complaining of their subjecting the vessels from Philadelphia to quarantine, and their denial of the existence of a contagious disease in Philadelphia, I refer to the True American of the 2d of August.

I have received assurances from a respectable physician in New-York, that he is in possession of unquestionable evidences of the importation of the fever into that city in the month of July, by the ship Gen. Wayne, from St. Domingo.

The number of cases had so greatly diminished in Philadelphia by the beginning of August, that at a meeting of the College of Physicians on the 6th, only four confirmed cases were known to exist in the city and liberties, and very few diseases of any other description.

A Newbury-Port paper of the 26th of July states, that the fever at that time prevalent there, was believed to have been imported by the schooner Sally from St. Thomas's, which arrived there the 27th of June, as no person had been attacked with the fever who had not been on board that vessel, or that did not reside or visit in the vicinity of the lower long wharf, where the vessel was unladen. It is also asserted, that no case of such a fever had occurred, until five or six days after the arrival of

the Sally, excepting that of a lad who came from sea in her : soon after which, eleven persons died in that town, two in Salisbury, and one in Newbury, who had worked on board of her.

The above account is confirmed by Dr. James Tytler, in a treatise lately published at Salem in New England, who adds, at page 535—" that of 30 persons taken with the fever, in the neighbourhood of the wharf where the Sally lay, 16 died, the majority within the period of seven days."

The fever in Philadelphia increased so sensibly after the middle of August, that the College of Physicians had a special meeting on the 21st and made the following laconic communication to the Board of Health.

" GENTLEMEN,

" The College of Physicians conceive it to be their duty to inform you, that recent events have confirmed the opinion which they lately expressed to your board ; and they feel it incumbent on them to repeat, that a malignant contagious fever, of the same nature with the disease which raged here in the years 1793, 1797 and 1798, prevails amongst us at this time to a very alarming degree.

" Philadelphia, Aug. 21, 1799.

" *The Board of Health.*"

This communication appeared in several of the news-papers, a day or two after it was sent to the Board. Consternation seized every one that heard of it ; and every part where the disease was suspected to exist, was instantly deserted. Notwithstanding all this, the Board of Health, governed by policy that I do not understand, or misled by speculative and mistaken notions respecting the nature and cause of the disease, did not publicly acknowledge its existence, much less that it was making progress, which was now no longer in their power to controul, till the 22d of August. They then, with evident reluctance, acknowledged that a number of persons had been taken ill the last six days, principally in the lower part of the city and in Southwark, some of whom had died after a few days sickness ; but that from the few cases of mortality, and from the favourable change which had taken place in the weather, they were in hopes that a check would be given to its progress ; and therefore “ they did not think there was sufficient ground for the great alarm which pervaded the city.”

The citizens convinced of their danger, from the frequent appearance of the horse and the sick coach, put no confidence in the declaration of the Board, but fled to the country in every direction and from every quarter ; so that by the 1st of September a great part of the city, as well as Southwark, was

almost destitute of inhabitants. Many, however, who had no places provided to retreat to, were forced to remain: and many fell victims to the disease, who might have escaped if the signal of danger had been given earlier; and particularly if the line of communication had been cut off early between the infected and the other parts of the city, by removing both the diseased and the sound from that part to a safe distance in the country.

The disease gradually extended to almost every part of the city east of Seventh-street; but very few cases occurred westward farther than that street, and not one either on Schuylkill or in Kensington, as far as I can learn.

A few nights of severe frost after the middle of October, deprived the contagion of its power, and put a period to the disease so completely, that the greatest part of the citizens returned to their welcome homes before the end of the month.

The Board did not begin to publish the daily return of deaths in the city and liberties till the 21st of August. From this time to the 18th of October, when they desisted from publishing them, the number of deaths amounted to 720, including those that died at the City hospital. I believe it may be safely computed, that the number of deaths in the city and liberties from the 21st of June to

the 21st of August, on an average, did not exceed 10 a day, including yellow fever cases, which is less than has occurred many years when no yellow fever prevails; for that period is the most insalubrious part of the year to infants and young children in Philadelphia, as September and October have always been to adults.

According to the return made by the Board of Health to the Governor, the interments from the 10th of July to the last of October did not exceed 1276. During the last mentioned period, 324 patients were received into the City hospital; of these 193 died.* The remedies chiefly employed were blood-letting, and mercury, both internally, and externally, for the purpose of inducing salivation as speedily as possible.

In the year 1793, 807 patients were received into Bush-Hill hospital (which is situated in a much more eligible and salutary situation than the present hospital) from the 22d of September to the 6th of November; of these 448 died. The chief remedies employed in 1793, were, occasional but very sparing bleeding, mild laxatives, diluting drinks with vegetable acids, blisters and camphorated nitrous powders, partial warm bath, &c.

* The number of patients with the yellow fever admitted into the Lazaretto or Marine hospital was 95, of whom 21 died.

In 1797 I do not know the number admitted. Bleeding was seldom employed; but mercury was employed in small and repeated doses, for the purpose of inducing salivation. The proportion of deaths, however, was nearly equal to that of 1799.

In 1798, in addition to free blood-letting and the liberal use of mercury in recent cases, active emetics were frequently employed about the fourth day of the disease, for the purpose of “shaking the gall-bladder;” the quantity and vitiated quality of the bile being at that time supposed, by some gentlemen, to be the principal cause which kept up the febrile state. The proportion of deaths however was greater in 1798, if my information is correct, and I have made a careful inquiry, than in any of the other years that have been mentioned.

Some of the nurses became sick at the hospital in 1799, but were all well when the patients were discharged, and the house shut up on the 2d of November. In the course of the disease, the alms-house and Pennsylvania hospital were shut; in consequence of which the poor, with diseases of different kinds, were received for some time into the City hospital.

Though the disease pervaded different parts of the city, infomuch that it was judged hazardous to hold the election at the state-house in Chesnut between Fifth and Sixth-streets, neither of the banks nor the custom-house were removed ; and, though they were daily visited, and business transacted with them by gentlemen from the country, there was not an instance of any one taking the disease from that circumstance that I have heard of : a proof that the cause of the disease was not diffused through the atmosphere.

No provision having been made for the poor, they were reduced to a most destitute and famishing condition ; in consequence of which many were sent to the hospital, as well as several orphan children. The compassion of the guardians of the poor being roused by these distressing circumstances, they negociated a loan towards the end of September, and appointed a committee of humane citizens (of which Dr. Samuel Powel Griffitts was one) to supply them with necessaries.

A Sketch of the State of the Weather which preceded and prevailed during the existence of the Fever.

The preceding winter had set in early and continued late, and the weather was unusually cold and

wet from April to the 12th of June. It then became all at once extremely warm and continued so (two or three days excepted) till the 26th. On the 24th the thermometer rose at 2 P. M. to 92° which was as high as it had been at any time for 8 years before, in the same situation. No rain or scarcely any fell from the 12th to the 26th of June.—A thunder-gust came on suddenly in the afternoon of the 26th, accompanied with tempest. On the 29th another thunder-gust, succeeded by frequent showers.

July 1st, it thundered and rained heavily—became fair on the 2d, but continued variable, and the heat moderate with refreshing westerly breezes, to the 1st of August. The thermometer seldom rose higher than 82—Rain fell on the 6th, 9th, 13th, 14th, 19th, 20th (the 20th accompanied with strong cold wind,) 26th and 31st—Loud thunder only 3 days in July.

The weather in August was very variable; the thermometer sometimes as high as 86, at others as low as 76: and a considerable quantity of rain fell at different times in the course of the month, sometimes (repeatedly in the first week) accompanied with loud thunder. On the 19th the air was unpleasantly cold.

- Sept. 1st Warm and moist.
 2d Heavy rain.
 3d Rain all day.
 4th Overcast and so cold as to require fire.
 5th Rain—wind N. E.
 6th Rain—cold.
 7th Rain—heavy and constant all day.
 8th Rain—showery all night.
 9th Rain—heavy all day and night.
 10th Cold—overcast.
 11th Fair—remarkably warm and calm.
 12th Do.
 13th Thunder-gust.
 14th Cool—pleasant, pure, fresh, and strong breeze.
 15th Do.
 16th Do.
 17th Fair and pleasant.
 18th Do.—rain in the night.
 19th Rain all day.
 20th Heavy rain all last night and all this day.
 21st Light rain all day.
 22d Northerly wind—fair, cool.
 23d Frost observed this morning.
 24th Frost—wind northerly—cold.
 25th Frost—calm, mild.
 26th Wind W.—mild.
 27th Do.
 28th 29th and 30th—Do.
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The 1st, 2d, and 3d of October, calm and very warm—4th overcast and showery—5th calm and warm.—The weather continued variable, but generally mild (with heavy rain on the 10th and

showers on the 11th, 12th, and 13th) till the night of the 17th when there was a severe frost.—From the day last mentioned to the 8th of November, frost appeared every morning; but the days continued mild, and very pleasant.

Very few cases of the fever appeared this year after the 20th of October, nor did any person that I have heard of, take it after their return from the country, though they returned earlier than usual; and but three or four that have come to my knowledge in the course of the winter, though it continued milder and more moderate, till the end of January, than any winter that has occurred for several years: and no attention has been paid by the Board of Health, that I can learn, to purifying infected houses, bedding or wearing apparel.

After the thawing of a deep snow in December a catarrhal complaint, or distressing cough, became epidemic, which proved mortal to a few children, and old people.

In the winter of 1793, several cases of the yellow fever occurred which came under the observation of the writer of this sketch. In those cases the disease was of longer duration, and had a greater resemblance to the putrid or common jail fever, than it had been in the summer and autumn.

In two of those cases, one of which died with hæmorrhages and very yellow skin, (symptoms common to the jail fever from human contagion, as well as to the yellow fever,) the disease was certainly contracted from sleeping on infected beds in a close stove room.

OF THE
ORIGIN
OF THE
YELLOW FEVER.

I SHALL now proceed to state the evidences and arguments, which have convinced me that the yellow fever has originated from foreign contagion, and not from domestic causes, every time that it has appeared in this country: and, as this is not a question of amusement, but of serious import; not between different and contending parties, but a contest between truth and error, on the establishment of which, not only the interest, but in a great measure the very existence of our cities depend, I trust I shall meet with a fair and impartial hearing. If the proofs of the foreign origin of the disease be convincing, it behoves every one to embrace that opinion: on the contrary, if the weight of the evidences on the other side of the question preponderate, it ought to be established; for the knowledge of truth abstracted from all other considerations, must eventually be for the interest of the community.

Evidences of the Importation of the Pestilential or Yellow Fever into this country at different times.

The disease called in the English West India islands and in America the yellow fever, and in the French islands the *maladie de Siam*, is said by respectable authority to have made its first appearance at Fort St. Pierre, Martinique, an island in the West Indies, in the year 1687,* soon after the arrival of a French fleet at that port from the kingdom of Siam in the East Indies.† From Martinique the malady was imported by some commissioned ships into St. Christopher's and into Hispaniola or St. Domingo, where it occasioned great mortality. In Port de Paix and several other places it destroyed such numbers, that the king of France published an edict, ordering all vessels coming from Martinico to perform quarantine. And in the year 1708, penal laws were made, inflicting the punishment of death upon any seaman or passenger from those islands that should land in any part of France without legal examination and permit.

It is related in Hutchinson's History of New-England, vol. ii. p. 72,—“ that Admiral Sir Fran-

* Sauvage's Nosology. Astruc de Peste. Desportes, and Dazille on the Diseases of the Negroes, &c.

† History of Hispaniola, by M. de St. Mery, p. 700.

cis Wheeler was sent with a fleet to invade and conquer Martinique, but his men were seized with a malignant fever which destroyed three-fourths of them; in consequence of this the fleet failed to Boston and introduced the disease into that town, where it occasioned dreadful mortality." From this account, however, it cannot be ascertained whether this was the yellow fever or the common putrid fever.

The first appearance of the yellow fever in Barbadoes, of which any account is recorded or handed down by popular tradition, was in the year 1691; at which time the Rev. Griffith Hughes (Nat. Hist. Barbadoes.) says it was called the New Distemper, and afterwards Kendal's fever, the pestilential fever, and the bilious fever.

Dr. Warren, who resided in Barbadoes, and published a treatise on the disease in 1739, asserts, "that it was introduced into Barbadoes from Martinique by the Lynn man of war, in the year 1723, and from the same place ten years after by a vessel, the surgeon of which, Mr. Nelson, was sick on the passage, and died a few days after his arrival at Barbadoes." Dr. Warren adds, "The fever had broke out, as he was informed by Mr. Nelson and others, at Port St. Pierre, soon after the arrival of a provençal fleet from Marseilles."

“ This distemper,” says Dr. Warren, “ cannot be reasonably attributed to any corruption of the air that arises from lakes, marshes or woods, because the land in this island is the best cultivated, and entirely free from lakes or marshes, and, unfortunately for the inhabitants, there is not a sufficiency of wood on it for fuel; but it is agreeably diversified with hills and risings, on the very tops of which the best canes grow. The air here is also remarkably pure and fresh, and probably more salubrious than in any of the other sugar colonies.”

Before the introduction of the disease first mentioned by this author, into the island, he says he had for seven or eight years paid particular attention to the effects produced on health by the different seasons and state of the weather; during which time some years had been distinguished for sultry heats and long intolerable droughts, some by almost incessant rains, and several by unsettled and tempestuous weather, and yet no footsteps of this fever did appear in all that time. He has frequently observed, that a continuation of dry and hot weather has been so far from giving any aggravation to the contagion, that it has seemed rather to repress it, till the returning rains and a moist atmosphere have renewed its activity.

Dr. Warren proceeds, “ The reader may judge as he thinks fit of this account of the origin of this

disease. I am satisfied that it was introduced among us the two last times in the manner described ; and that it is not by any means the natural growth of this island, but truly a foreign intruder, let the first causes of it be what or from whence they may.”

This author asserts, that “ intermitting fevers are rarely, if ever, the product of Barbadoes, let the weather vary ever so much, though continued fevers upon their going off, sometimes put on the appearance of intermittents, and persons with agues are often brought here from some of the other islands.”

“ In some of the other islands, where the harbours are muddy and the adjacent ground low and wet, the *natives* as well as *strangers*, are in an eminent degree, subject to intermittents and remittents, resembling double tertians, which are frequently obstinate and irregular, but which with due preparation and precautions submit at length to the bark.” In another place he says, “ bark did no good in the malignant fever. And that the island had not been entirely exempt from the malignant fever from the year 1733 to 1739, the time his treatise was written.” And we know from the publications of Drs. Hume and Wright, that it proved destructive to the crews of Admiral Vernon’s fleet, in the year 1741.

In a pamphlet, entitled, a Discourse on the Plague, published in London, in the year 1721, it is related, that “ a pestilential fever was introduced into Virginia in the year 1697, by Admiral Nevill’s squadron, which arrived there from the West Indies.”

The first occurrence of the yellow fever in Philadelphia, of which there is any record, or recollection, was in the year 1699. This fever is mentioned in the Journal of Thomas Story, recorder of the city, who says, “ six or eight persons died of it daily for several weeks, and some days ten or twelve.”

From an anecdote respecting Roger Gill, a noted preacher of the Friends society (who prayed in public that he might be accepted as a sacrifice and the people spared) it appears the fever at that time was most general and mortal, the last week in September. And from the register of deaths kept by the meeting, it appears to have entirely ceased before the 1st of November. The city at that time contained but about 600 families, of course its population must have been greatly reduced by the mortality.

In a letter from Isaac Norris, Esq. quoted by Mr. Webster, dated August 15th, 1699, the disease prevalent at that time in Philadelphia, is called the

“ Barbadoes distemper.” And John Gough, in his History of the Friends (vol. iii. p. 516) says, “ the disease which raged in Philadelphia, in the year 1699, was the same as that which has since been called the *yellow fever*, which had been very mortal in the West India islands for a considerable time before it made its appearance in Philadelphia. The disease also prevailed the same year in Charleston, South Carolina.”*

Mr. Story, in the 2d vol. of his Journal, has recorded, “ that 17 persons lay dead of a malignant fever in the city of New-York, on the 1st of September (N. S.) in the year 1702.”

The late Dr. Thomas Bond of Philadelphia, in an introductory lecture to a clinical course, in the Pennsylvania hospital, the 3d of December in the year 1766, speaking of the effects of climate, in influencing and modifying the appearance and violence of diseases, delivered the following facts and opinions, viz.

“ The last wet summer, succeeded by a short space of dry hot weather in autumn, caused so many intermittents from the southern suburbs of this city, all the way to Georgia, that I may venture to assert, two-thirds of the inhabitants were not able to do

* History of South Carolina, vol. i. p. 142.

the least business for many weeks ; and some families and even townships were so distressed, that they had not well persons sufficient to attend the sick ; during which time, the city was remarkably healthy.

“ When I first came to this city, the dock* was the common sewer of filth, and was such a nuisance to the inhabitants about it *every fall*, that they were obliged to use more pounds of bark than ounces since it has been raised and leveled. Another striking instance of the advantage of cleanliness for the preservation of health, affords an opportunity of paying a tribute justly due to the wisdom of the legislature of this province, in framing the salutary laws for paving and regulating the streets of this city, and to the skill and industry of the commissioners in executing them, whereby they have contributed so much to the healthiness of the inhabitants, that I am confident the whole expense will be repaid in ten years by the lessening of physic bills alone.

“ The yellow fever which I take to be exactly the same distemper as the plague of Athens, described by Thucydides, has been five different times in this city since my residence in it. The causes of three of them I was luckily able to trace, and am

* A wide muddy canal which crossed three of the principal streets, and exposed an extensive muddy surface to the sun during ebb tide.

certain they were the same that produce a jail fever in other places ; and am of opinion, that the difference between the appearance of these fevers, arises from climate, and the different state the bodies are in when they imbibe the contagion ; if so, the same methods that will prevent a jail fever will equally prevent a yellow fever.

“ It was in the year 1741 I first saw that horrid disease, which was then imported by a number of convicts from the Dublin jail.

“ The second time it prevailed, it was indigenous, from evident causes,* and was confined principally to one square of the city.

“ The third time, it was generated on board crowded ships in the port, which brought in their passengers in health, but soon after became very sickly. I here saw the appearance of contagion like a dim spark, which gradually increased to a blaze, and soon after burst out in a terrible flame, carrying devastation with it, which after continuing two months, was extinguished by the profuse sweats of tertian fevers : but this is not the ordinary course of the contagion ; it is usually checked

* These causes, Dr. Shotte, in his Travels, says, Dr. Bond informed him were a large quantity of putrid fish, thrown into the docks.

by the cool evenings in September and dies on the appearance of an October frost.

“ The contagion of these malignant fevers, lies in the air confined and corrupted by a neglect of cleanliness, about the helpless sick, and is harmless without such aid.”

Extract from hospital journal.

A letter written by the late Dr. John Bard of New-York, and published in the American Museum for 1788, page 453, contains the following information on this subject, viz.

“ I have heard from the ancient inhabitants of this city, that so long ago as the year 1702, a malignant fever little inferior to a plague was imported into it, which, from its extreme mortality, was distinguished by the name of the Great Sickness; and that if tradition says true, was brought here from St. Thomas's, in a single bale of cotton.” That fatal distemper, adds Dr. Bard, “ called the yellow fever or black vomit, which, about 40 years ago produced its ravages in several parts of this continent, particularly in the cities of Philadelphia and New-York, was first imported from the Spanish Main into Barbadoes, and from that island in the

course of commerce, communicated to this continent,

“ The cities of New-York and Philadelphia, have several times experienced the fatal effects of dangerous infections, some of them resembling the jail fever, from dirty ships, crowded with dirty passengers, from Rotterdam, which from that cause took the name of the palatine fever.”

At that time there was no legal provision against those dangers : vessels with this load of impurity came immediately up to the wharves and the sick were landed in the town. The legislature of New-York have since passed a law for preventing the introduction of diseases into that city ; but laws will be of no avail unless they are enforced with rigor and impartiality.

We are informed by Dr. Lind, in his 2d paper on infection, that he had received information from a gentleman in Philadelphia, who had been a sufferer by the disease, “ that the yellow fever was introduced into that city, in the year 1741, by means of a trunk of wearing apparel belonging to a gentleman who had died of the fever in Barbadoes, and that it proved mortal to more than two hundred of the inhabitants.”

Dr. Lining of Charleston, in a letter to Dr. Whytt, published in the 2d vol. of the Physical and Literary Essays of Edinburgh, gives an account of the occurrence of the yellow fever in that city, in the years 1732, 1739, 1745 and 1748, and asserts, “ that it had been traced to some persons or vessel lately arrived from some of the West India islands, every time that it had occurred there.” Dr. Lining also adds, “ that some of the seasons in which it had been epidemic or general were more cool and salutary than many that had preceded or intervened, in which the disease had not appeared at all.”

Dr. Mitchel of Virginia, in a letter to Dr. B. Franklin, informs him, “ that a malignant contagious fever, (which from his description appears to have been the yellow fever) was prevalent in certain parts of that state, in the years 1737 and 1741, and that it originated from an infection *sui generis*, and had been twice brought into those parts by ships of war which sailed in those seas.”

From the year 1747, when it was again partially epidemic in Philadelphia and New-York, as appears from letters which have been preserved by some of their inhabitants, Philadelphia was exempt from it till the year 1762, when, according to the notes of Dr. Redman, president of the College of Physicians, which were communicated to the College in

1793, it was imported from Havanna, and communicated by a sick sailor to the family with whom he lodged near the New Market, in the lower end of the city, and from that family to others in succession, till it pervaded nearly one half of the city, particularly that part below the great dock and canal, which at that time was neither arched nor drained. It then ceased of a sudden, about the middle of October, and was no more heard of in any of the states, till the year 1793.

For an account of the prevalence of the disease in Philadelphia in the years 1793, 1797 and 1798, the reader is requested to consult the late publication of the College of Physicians, entitled, "Facts and Observations on the Origin and Nature of the Pestilential or Yellow Fever," &c. in which he will find the importation of the disease proved by the most positive and undeniable testimony.

Dr. Monson, of New Haven, (a physician of respectability and eminence) in his printed account of the yellow fever which occurred in that town in June 1794, and became epidemic, relates, "that Captain Truman arrived there early in June from Martinique, in a sloop that was infected with the contagion of the yellow fever, and laid at a wharf within a few rods of Isaac Gorham's house; and that a chest of wearing apparel, belonging to a man who had died on board the vessel at Marti-

nique, was carried from the vessel to Mr. Austin's store, and opened in the presence of Captain Truman, Mr. Austin, Henry Hubbard and Polly Gorham, the three last of whom were infected and died in a few days after their exposure to the contents of the chest. No person in the town was known to have had the yellow fever previous to the arrival of Captain Truman's vessel." Dr. Monson asserts, " he could trace every case that occurred to contagion; and that, of 64 patients which was the number that died of this disease, 44 had black vomiting." *See Webster's Collection.*

In a subsequent letter, Dr. Monson says, he was for a considerable time at a loss to account for the case of a child who took the disease, as it could not be discovered that it had been exposed to any source of contagion. But a man, after the termination of the disease, who had been employed as a nurse to those in the fever, informed the family that he had taken it up in the street and carried it into the house, to prevent it from being hurt, unperceived by any of the family.

By what means the disease was introduced into Baltimore in the year 1794, or into Norfolk in the year 1795, I have not been able to collect positive proofs; but from its first appearance at Fell's point, where the shipping lay, and from its gradual progress into other parts of the town, there is a

strong presumption it was introduced into Baltimore by one or more infected vessels from the West Indies where it had become before that time almost universal.

The proofs of the introduction of the yellow fever into New-York in the year 1795, by the brig Zephyr, from Port-au-Prince, published by the Board of Health of that city, though controverted by some of the medical gentlemen of that place, are sufficiently authentic and valid to convince any impartial and disinterested inquirer, that it was imported that *year into New-York by that vessel*. Those proofs may be seen in the Philadelphia Gazette, dated September 24th, 1795.

In the year 1796 it appeared and became epidemic in Boston, and in the town of Chatham on Connecticut river. From whence it originated in Boston has never yet been ascertained; but we are informed by Mr. Webster in his History of Epidemic and Pestilential Diseases, vol. ii. p. 344, after returning from his researches among revolving planets, blazing comets, exploding volcanoes and wide-yawning earthquakes, to solid ground; “ that the fever at Chatham was traced, in every instance, to a vessel from a port in Hispaniola, which was highly infected; and that no person was affected without direct intercourse with the vessel, the clothing or the sick. It was not taken

by passing along the street, nor from house to house. It commenced late in September and had no precursors."

Dr. Monson, in a letter to Dr. Hofack of New-York, asserts, " that the yellow fever was not only decidedly and clearly traced to importation at Had-dam in 1796, but also at Newbury-Port in 1797; in the latter place by a vessel which arrived there in the month of May, from one of the ports of the West Indies, on board of which one or more persons had died on her homeward passage." See also Med. Rep. vol. i.*

The following, among other circumstances, prove that the fever was imported into Philadelphia in the year 1798. The ship Deborah from Jeremie, a port of St. Domingo, arrived at the quarantine station the 8th of July with about 90 persons on board, including passengers. After remaining under quarantine ten days, she came up to the city, discharged her cargo, and proceeded to the village of Kensington to be refitted. It appears by several depositions, particularly by those of Col. Depeyster, who came passenger in her, and Mr.

* For the account of its introduction into Philadelphia in 1793 and 1797, see also, " Observations on the Causes and Cure of Bilious Fevers," at page 212, &c.

John Boden,* who served on board in the capacity of carpenter, “ that she had lost several of her

** The following is the Deposition of Mr. John Boden.*

State of New-Jersey, City }
of Burlington. } ff.

On the 27th day of August, in the year 1798, before me, Joseph Bloomfield, Mayor of the city of Burlington, appeared, John Boden, ship carpenter, and freeholder in the same; and being duly sworn, deposeth, and saith, that on the first of December, 1797, this deponent shipped himself as carpenter on board the Deborah, Edward Yard, commander; that said ship sailed from Philadelphia in February last, for Cape Nichola Mole, and arrived at said Cape about the middle of March; from whence the said ship, in April last, went to Port-au-Prince. While at Port-au-Prince, Henry Philips, one of the sailors of said ship, was taken very ill with what is called the yellow fever; that during his illness, the said Henry Philips told this deponent, (and several times since) that he had taken the yellow fever in attending on a man of his acquaintance, who had the yellow fever, and died on board an English brig at Port-au-Prince, while the said Philips was on board said brig with his said acquaintance. This deponent further saith, that the said Henry Philips has a wife in Philadelphia, but is now on a voyage to Europe: That this deponent assisted, in nursing said Philips, while in the yellow fever aforesaid, at Port-au-Prince, until this deponent was seized on the voyage of the Deborah to Jeremie, with the same yellow fever, which this deponent believes he caught of the said Philips. That while at Jeremie several of the crew of the Deborah had the yellow fever; that Efdell, Rofs, and several others of the crew died there; that in June the Deborah left Jeremie: That

hands with the yellow fever during her stay at Jeremie, and five on her homeward passage, and three passengers including one child." These were reported at the Health Office to have died with fluxes: and it was declared on oath, that there was no person sick at the time of her arrival at the quarantine ground but one black girl, and that she had nothing but a slight fever and lax. But it appears from the books of the Board of Health, that three men were sent from her to the Marine Hospital the very next day after her arrival, one on the 10th, and two on the 11th, with symptoms of yellow fe-

on the passage to Philadelphia, Miller, the boatswain, Brown, Smith, and one other sailer, and three passengers died, as was generally believed of the same fever. That while said ship was under quarantine at Fort Mifflin, no person of her crew died to this deponent's knowledge; nor was any person permitted to come on board, or to go on shore to the deponent's knowledge, while riding quarantine, except the Health Officers and bargemen of the yawl, which brought said Health Officers on board.—That while said ship was discharging her cargo at Smith's wharf in Philadelphia, George Streeton, ship carpenter, visited this deponent, and was about half an hour on board said ship: That the said George Streeton has lately lost a son, as this deponent has been informed, of the prevailing sickness in Philadelphia:—That the said George Streeton has removed from Philadelphia with his family, and now resides in the Fall's township, in Buck's county; and further this deponent saith not.

JOHN BODEN.

JOSEPH BLOOMFIELD, }
Mayor of Burlington. }

ver ; and that part of the clothing of the deceased remained on board. The first cases that occurred in the city were traced to persons that had worked on board or had done business with the Deborah. And soon after her arrival at Kensington, which before her arrival was entirely free from the disease, several persons who worked on board of her, and others in the neighbourhood where she lay took the fever ; the majority of whom died. The proofs of this are detailed by the College of Physicians at page 41, and are indisputable. To oppose fanciful speculations and arguments drawn from remote analogies, to facts so clearly and fairly established as these, is not only trifling with our understandings, but is an outrage upon common sense ; and as such fanciful speculations have a tendency to support and perpetuate distressing and unavailing apprehensions, and to affect the prosperity of all the commercial towns in the union, it is a grievance that demands the interference of the federal legislature.

Dr. Tilton of Wilmington says,* (and Dr. Tilton has been accustomed to make correct observations) “ At Wilmington we have no apprehension of domestic origin. Every medical character in this place takes it for granted that the disease was imported from Philadelphia, and no otherwise created. It

* Letter to Dr. Miller. Med. Rep. vol. iii. p. 128.

appeared to me also, that infected household goods and furniture, brought from the city by our shallops had more influence in spreading the contagion than diseased persons: for it was very remarkable, that the disease was not communicated from the first person who died of it, and who came down and sickened in the land stage. But, when the fever became epidemic, it took its rise at the water edge, and infected all, or with few exceptions, gradually up to High-street. Above this the town is more thinly built, and the cases were solitary as in the country. Although the disease made its appearance among us, in the beginning of August, we hoped for our usual exemption until near the middle of the same month, when the epidemic nature of it appeared so manifest, that a committee of health was appointed, and a slight hospital arrangement was constructed, for the relief of the poor and necessitous."

Dr. Brackett of Portsmouth (N. Hamp.) in a letter to Dr. Oliver of Salem relates, that "the yellow or pestilential fever made its first appearance in that city about the 1st of August, 1798, eight or ten days after the arrival of a vessel from Martinique, on board of which two men had been sick before she left the island, one of whom died on the passage and the other was on the recovery at the time of her arrival at Portsmouth: at which time there was not, nor had been a case of any

kind of fever for a long time in that place. On the 1st of August the day the vessel arrived a child of the owner was taken ill with symptoms of cholera, and died on the 4th. On the 3d of August his brother, 15 years old, was taken with similar symptoms, but with more inflammation and distress. He was bled freely, took calomel, bark, &c. and died on the 5th day from the attack. Between the 8th and 20th of the month, four or five of the other children and servants were taken with the same complaint. One of the daughters, attacked on the 17th, and treated with bleeding, mercury, warm bath and bark, died on the 9th day from the attack. She lost a great quantity of blood from her nose and mouth the three days preceding her death. Many other persons were taken ill in the same neighbourhood between the periods just mentioned, about one half of whom died. I lost 15 out of 45. If I could procure a foretaste of the fauces by giving mercury in small doses, and by rubbing it upon the gums, or by external frictions, on the third or fourth day, I was sure of the patient's recovery.—The disease was confined almost entirely to the streets near to the wharf where the vessel lay, and to the beach where she was graved, though those streets are in the highest part of the town, are as free from putrid filth as any other streets in the town, and have always been esteemed the most healthy."

To the facts which have now been stated respecting the importation of the yellow fever into this country, and consequently of its being a contagious disease, under certain circumstances, I shall only add one more, lately furnished by Dr. Bayley, physician and inspector of vessels for the port of New York. In a letter from Dr. Bayley to the mayor of New York, published in different papers, it is stated, “ that the ship General Wayne sailed from New York on the 14th of April for Havanna, navigated by 25 men under the command of John Seaman. On the 25th of May, whilst lying in the harbour of Havanna, John Brown a sailor died, and John Johnson the 1st of June. During the passage of the ship to the port of New York, Jonas Willis sickened, and died on the 14th of June. The ship arrived at the quarantine ground the 22d of June, at which time James Gardner, a seaman, was sick with the *Yellow Fever*. He was sent to the Marine Hospital, and died the next day. On the evening of the 27th of June, Mr. John Wright, a passenger on board the Gen. Wayne, was attacked with the fever, and received into the hospital on the morning of the 28th. In the course of the disease Mr. Wright became very yellow, bled from the mouth, and had excessive vomiting of matter which was of a dark colour, but recovered.”

After remaining at anchor at the quarantine ground 22 days, and having undergone the cere-

mony of washing and scrubbing the decks and ventilating the hold, without unlading or shifting the cargo, this vessel proceeded to New York, and came alongside of Coentie's slip. Soon after her arrival, several cases of yellow fever occurred in the neighbourhood of that wharf which was perfectly healthy before her arrival. This circumstance confirming the declaration of Capt. Seaman, the master of the Gen. Wayne, that she was an infected vessel, which has been stated by Mr. Watkins, one of the owners, in the New York Gazette, exasperated the inhabitants of that neighbourhood to such a degree that they compelled her removal.

In the year 1793, after an exemption of thirty years, the yellow fever (having first committed great ravages in Granada, Tobago and Antigua, in the last of which the inhabitants depend on the clouds for all the water they use, according to the account published by Dr. Lettsom, in the Gentleman's Magazine,) entered Philadelphia, and raged with uncontrollable fury ;—but was epidemic that year in no other town in America.

In 1794, it prevailed in New Haven, Baltimore, and partially in Philadelphia, while all the other seaports in the United States escaped.

In 1795, in New York, Baltimore and Norfolk.

In 1796, in Newbury-Port, Haddam, Boston, and Charleston.

In 1797, in Norfolk, Baltimore, Philadelphia, Bristol, and Providence.

In 1798 it prevailed with unusual mortality in Portsmouth, (N. Hamp.) Boston, New London, (the latter of which is situated on a high, dry and rocky shore, where there is neither marsh nor pond of stagnant water, and of course exempt from putrid vegetable exhalations,) New York, Philadelphia, Chester, Marcus Hook, Wilmington, (Del.) Peterburgh, and Wilmington, N. C.—And in 1799, in Newbury-Port, New York, Philadelphia, Edenton, and Charleston, while Boston, Dover and Baltimore, and many other towns surrounded with putrid materials escaped.

If this disease originates from the putrid exhalations of the streets and gutters, can any man possessed of common sense suppose, that the flats of Baltimore and the towns of Charleston and of Dover could have escaped in 1798, when the less putrid streets of Portsmouth, New London, Boston and Wilmington were thronged with the sick, the dying and the dead? Reference alone to the dates and facts which have now been stated, in conjunction with the circumstance of the disease appearing only in the commercial towns of the United States; one year in the centre, another in the south, a third in the north, and a fourth in the east, while intermediate ones have remained perfectly free

from its desolating effects, afford an accumulated weight of testimony in favour of the doctrine of its foreign origin, which it would seem impossible for any mind, however subjugated and bigoted to former opinions, to resist. But that no farther ambiguity may remain, respecting the origin of this dreadful disease, the following facts and arguments are added.

It is asserted by Astruc on *Pestilential Diseases*; by Sauvages in his *Nosologia Methodica*; by Desportes and Dazille, both of whom were physicians of eminence in St. Domingo; and by Mr. Moreau de St. Mery, in his *History of the French Part of St. Domingo*, page 700, “that the yellow fever was not known in the West Indies till the year 1689, when it was imported into Martinico by a fleet from Siam in the East Indies, hence called the *Maladie de Siam*. Hughes says it was first observed in Barbadoes in the year 1691: and Ulloa in his *Voyage to South America*, book i. chap. 5. “that its first appearance on that continent was in the year 1729, and destroyed the greatest part of the crews of the *Guarda Costa*’s at Santa Martha.”

This disease has seldom been epidemic in the West Indies, excepting in time of war when fleets and armies have been stationed there: and, if the testimony of Blane and of other respectable authors is to be credited, it was so much confined

to the harbours and seaports in the year 1782, that very few medical gentlemen who resided in the country had ever seen a case of it. This circumstance and other facts contained in Blane's work formerly deceived me so much, that I thought the yellow fever was only a modification of the typhus gravior, or the common malignant fever of ships, &c. but recent observations and more accurate inquiries have convinced me that the diseases are not the same; for the contagion of the one operates in winter within a certain distance of the diseased, where the air is not frequently renewed, as well or perhaps more certainly than in summer; whereas the operation of the contagion of the latter is confined chiefly to the latter end of summer and to autumn. From the cessation of the revolutionary war in America in 1783 to the year 1793, there were no traces of the disease in either Granada, St. Domingo or Barbadoes; and I have met with no author that has made mention of it in any other of the islands between the periods just mentioned; if there has, I shall be thankful for correction, for my sole aim in this account is to separate truth from error. But early in the year 1793 it made its appearance in the town of St. George, soon after the arrival of the ship Hankey, with a sickly crew from the coast of Guinea; which was on the 17th of February. This fact is established not only on the respectable testimony of Drs. Chisholm and Wright, but by the public

papers of Grenada and Kingston, and by the London Chronicle, dated October 12th, 1793.

From Grenada the disease was speedily conveyed to several of the other West India islands in succession, particularly to Tobago, St. Domingo, Guadaloupe, St. Vincents, Antigua, Dominique, Jamaica and Barbadoes; and since to Cuba, &c. According to Dr. Clark, it did not reach Dominica till the 12th of June, which was soon after the arrival of a number of refugees from St. Domingo; a great portion of whom, contrary to what happened in Philadelphia, were the first affected and the greatest sufferers. In Dominica it was also fatal to the Negroes lately arrived from Africa, a circumstance also contrary to the observations of most of the former West India authors.—See Duncan's Annals for 1797.

In Barbadoes it must have been communicated by contagion, and could not have originated there, as there are no sources of intermittents or remittents of the mildest form in the whole island, at least not sufficient to render the disease general.—See Hugh's Natural History of the island published in the year 1750.—Even Antigua which is not only free from marshes, but has neither spring nor rivulet on the whole island, has not escaped this ferocious and destructive disease.

The immense commerce of the United States, and the shortness of the voyage, render the West Indies to them the same source of contagion that the Levant is to Europe.

During the existing war, though the yellow fever has successively pervaded almost all the islands, it has been most severely felt in the French islands Guadaloupe and St. Domingo, which have been the principal scenes of military operations. With those islands the American commerce has been carried on to a greater extent than with any of the others; and as the American vessels necessarily have had frequent communication with the fleets in the ports of those islands, they could not avoid being infected. When the infected vessels returned home early in the spring or summer, or late in the fall, the temperature of the air not being favourable to retain or convey the matter of contagion, no disease or only a few solitary cases have been the consequence. The reason that the disease occurs more commonly about the end of July or beginning of August, in the United States (though there are many exceptions to this fact, for it has sometimes occurred in the month of May) is because it is more generally epidemic in the West India islands in that season, as we learn from several writers of credit, than at any other time of the year, which is the most rainy season within the tropics.

In the month of June in the year 1793, a great number of vessels, which were at Cape François during the capture of that town by the negroes, took on board and conveyed from thence a great many of the distressed inhabitants that had escaped the fury of the captors, to Philadelphia, as well as to some of the islands.—And it is a remarkable circumstance, as recorded by Dr. Clark, that the disease made its first appearance in Dominica a few days after the arrival of a number of the fugitives there;* which was precisely the case at Philadelphia. A few days after the middle of July, several vessels from Cape François arrived at the port of Philadelphia, crowded with passengers and goods of various descriptions; and about the same time, or a few days later, a French privateer called the *Sans-culotte*, from Nantz but last from the West Indies, which brought in the ship *Flora* of Glasgow, captured on her passage.

The disease made its appearance the beginning of August, first in the lodging house of Mr. Denny, in the neighbourhood of the wharves where two vessels which had landed sickly passengers and the *Sans-culotte* lay. The first victim to the disease was an Englishman of the name of Moore, who lodged at Denny's. From the suddenness of his death and the livid appearance of the dead body,

* See Duncan's *Annals of Medicine* for 1797.

Drs. Cathrall and Phyllick suspected he had taken poison, and obtained permission to open his body, but could discover nothing to justify their suspicions. On the 3d of August Dr. Cathrall attended at the same house a female lodger of the name of Parker, who died on the sixth day from the attack. Two French boarders in the same house sickened a few days later, one of whom died. Mrs. Denny, her husband and two daughters, were also taken ill a few days after the death of Mrs. Parkison—Mr. Denny and wife died: the daughters recovered. Mr. Philips's family, whose house joined Mr. Denny's, also suffered about the same time. Several of the passengers had rested themselves on their first coming on shore in Mr. Lemaigre's kitchen, which stands near the wharf, some of whom appeared in a very sickly condition, according to the testimony of Mr. Lemaigre and his clerk, and also of Major Hodgson, Mr. Ashbridge, and others, who communicated this account to Drs. Leib, Cathrall, and the writer of these pages. Three of Mr. Lemaigre's servants were attacked with the disease on the 2d of August; Miss Phillips at Major Hodgdon's on the 6th; two of Mr. Smith's daughters and one of Mr. Andrew Hodge's, all of whom lived in the same neighbourhood, about the same time. All these were attended by Dr. Hodge (except the Miss Smiths who were attended by Dr. Carson) and Dr. Hodge treated them with *mercurial purges*. Dr. Carson also prescribed the same for Mr. Smith's family,

from a supposition that they were only violent cases of the common endemic of the city (the remittent of autumn) and from recollecting that he had once experienced sensible benefit, when ill of a bilious fever, by taking twenty grains of calomel at one dose, by the advice of the late Dr. William Smith.

Capt. Swartz's vessel from St. Thomas's, which lay a few paces above the vessels that had landed the sick passengers, was moved up to Kensington about the 16th of August. The Captain sickened two days after, and two of the crew a few days later: the Captain died, the others recovered. Soon after the arrival of Capt. Swartz's vessel at Kensington, the disease made its appearance in some of the families there, and soon after became general.

For some time the disease was confined to that part of Water-street where it commenced, and almost every case that occurred for the first two weeks, could be traced to that particular place. The arrival of a cargo of damaged coffee a short time before the fever made its appearance, gave rise to an opinion among some gentlemen, that the disease originated from that source; but in the opinion of others, it might with equal justice be ascribed to a cargo of millstones which lay in the same neighbourhood: for though there are many instances on record of intermitting and remitting fevers originating from the effluvia of putrid vegeta-

bles, in low, damp, marshy and unventilated situations, in the autumnal season, when the surrounding atmosphere is moist and impure, there is not a single well attested example to be found of either the plague, or the fever called the yellow fever, which appears to be only a lower degree of the plague, or of any other contagious fever originating from that cause.

The cities of Europe in similar climates and situations are equally subject to the lesser tribe of febrile diseases with the United States; and some of them that have much intercourse with the West India islands, and Cadiz in particular, have been invaded by the yellow fever.* (See Lind on Diseases of Hot Climates.)

Many of the cities of the United States have now existed near 200 years, and Philadelphia more than 100. During this period, by clearing and cultivating the surrounding country, and by draining, paving and arching the reservoirs, and preventing the stagnation of water, and the putrefaction of animal and vegetable substances to any con-

* That it has never been epidemic in London may be owing to the greater coolness and purity of the atmosphere in that climate; though I have documents of its prevalence there in the year 1713, and of its being introduced into other parts of England since; but it has never spread since that time from one family to another.

siderable degree within their precincts, they have overcome all the natural and usual disadvantages of new settlements; in consequence of which, fevers and fluxes, once so formidable, had almost disappeared in the cities for some years before the yellow fever made its appearance, particularly in New York and Philadelphia, as is evident from their bills of mortality, which prove them to be more healthy than any city in Europe in the same latitude, with a proportionable population.

Dr. Monfon (whose name has already been mentioned with respect) in a letter to Dr. D. Hoffack of New York, after assuring him that the yellow fever was clearly and decidedly proved to have been imported into Haddam on Connecticut river, in the year 1796, and into Providence in the year 1797, remarks, “ that the name which has been given to this fever has occasioned the disputes which have arisen about its nature and causes, both in the West Indies and in this country. The fever called the seasoning fever, to which strangers are so generally subject on their first arrival in the West Indies, has been confounded by most of the West India writers with the pestilential fever: and some of them have confounded it with the bilious or remitting fever occasioned by the air of marshes, or the exhalations from collections of putrid vegetable substances; though it is evident it can have no connection with the latter, because the natives are equally

subject to bilious fevers with strangers, and also because the bilious fever is not a contagious disease in either the West Indies or in this country, the reverse of which is the case with both the yellow fever and the common malignant fever of jails and hospitals.* These unfortunate mistakes have, no doubt, occasioned and kept alive the diversity of opinion and the unavailing controversy which subsist. This I think clearly appears from the numerous accounts published in the news-papers, and in Mr. Webster's collection; for the gentlemen who have communicated their observations, most of whom had never seen many, and some of them not a single case of the yellow fever, have taken its identity with the marsh fever for granted, and of course have confounded it with what they are pleased to call the dock fever of New York, the pond fever of Sheffield, the horse-neck fever of Montgomery, and the cabbage-head fever of Hartford."

If the yellow fever, with its dreadful train of malignity and almost resistless violence, was only a higher grade of the common remitting fever, and originated from the same causes, it has been asked, How came it all at once to assume such a new and terrific form, as there is no example of such a sud-

* The malignant fever of hospitals, however, is less contagious in the West Indies than the yellow fever, but more so in this country.

den and extraordinary change in the diseases of any other country ?

To extricate themselves from the dilemma in which they are involved by this question, the supporters of the domestic origin of the yellow fever have recourse to an imaginary change in the constitution of the atmosphere, which they say has taken place of late years, and has become inflammatory : and, that this inflammatory constitution of the atmosphere, in conjunction with putrid exhalations, which before this change of constitution took place occasioned only fevers of a simple and mild kind in this country, now gives origin to the malignant and destructive yellow fever. In support of this doctrine, its advocates appeal to the season of the year when the disease begins, progresses and terminates ; and to the more speedy ripening and decay of fruit, increase of insects, &c. than formerly : and, no doubt, they would have considered the Hessian fly as an unanswerable argument in favour of their opinion, if, unfortunately, it had not appeared too early for their purpose.—Mr. Webster, with equal reason, considers the death of oysters and large draughts of shad, as links of the same chain of causes which produce earthquakes and yellow fever ! But it surely requires something more substantial, to establish a doctrine fraught with such serious consequences to the welfare and interest of the community, than the mere suggestions of fancy :

And till those gentlemen subject the atmosphere to eudiometrical experiments, and demonstrate that such a constitution does exist, or that some material change has taken place, it cannot with justice or safety be considered as any thing more than the mere suggestions of fancy, and deserves no more respect than the visionary opinions which prevailed in the dark ages of Gothic ignorance, when the conjunction or opposition of certain planets were believed to be the cause of the plague.

The following lines of Fracastoricus, who published his observations about the middle of the 16th century, give some idea of this doctrine :

“ An hundred years, twice told, have ta'en their flight
 Since Saturn mix'd with Mars his hated light ;
 Which, by their baneful influence, did infest
 The rich and potent nations of the East.
 Hence rag'd a dreadful pest, before unknown,
 Which seiz'd the lungs, and made the breast its throne.
 Four days it reign'd with dreadful sway,
 When life burst forth in purple streams and fled away.”

The ancient doctrine of the influence of certain planets in the production of pestilential diseases, being the offspring of ignorance and superstition, and not of rational and unprejudiced observations, is deservedly rejected. This must eventually be the case with the more modern doctrine respecting the change which is supposed to have taken place of

late years in the constitution of the atmosphere, and assigned as the cause of the conversion of our formerly mild fevers into those of a malignant and pestilential kind—For this doctrine is neither supported by observations nor direct experiments: on the contrary, it is so palpably erroneous, that the New York reviewers have given judgment against it;

1st. Because it derives no support from eudiometrical experiments nor any other *direct* proof.

2d. Because it seems to be rendered impossible by the season of the year, when these malignant fevers are most apt to prevail; i. e. the latter end of summer and the autumn, at which time, if at any season of the year, the relative quantity of the oxygene (or pure portion of the atmosphere,) it would seem probable is most *scanty*. A considerable proportion of vegetable substances is then dead, and even the living vegetables, a principal source of that air, have at this time much declined from the fresh, vigorous and healthy state in which they emit it most copiously.

3d. Because a greater proportion of the oxygene air, or inflammatory principle, exists in the winter, spring and early part of the summer, than during the remainder of the year, as seems to be rendered probable, by the brighter, and more florid com-

plexions of people, at such seasons, and by the nature of the diseases then most apt to prevail.

4th. Because if it was owing to an increased proportion of oxygenous air or an inflammatory constitution, the disease should appear among the inhabitants in the country, more readily than in the air of cities.

The late experiments of Dr. Carmichael Smyth, also appear to militate against this opinion. The fumes produced according to his directions to destroy contagion, consist, as Mr. Keir asserts, of highly oxygenated nitrous vapour, mixed with a large quantity of oxygenous or pure air.

It is a maxim in philosophy, not to admit any thing for the cause of an effect that is not supported by accurate and repeated observations or direct experiments. Therefore, till more substantial proofs than arbitrary assertions or ingenious conjectures, are offered in support of this doctrine, it ought neither to be adopted nor respected.

Equally powerful objections apply to the doctrine of gaseous oxyd of azote.

The doctrine of Mr. Webster on this subject, notwithstanding his elaborate researches, appears

still more exceptionable, and to be as much the creature of imagination as the tales of the fairies.

Some gentlemen, confounding contagion which arises occasionally in certain climates and situations, with that which is permanent and always existing, have hazarded an assertion, in contradiction to received opinion and common observation, that the yellow fever is not contagious. This doctrine, if erroneous, would be attended with such serious consequences, that nothing but the most positive and unambiguous proofs should induce any one to give credit to it. For though many inconveniencies and evils arise from the dread of contagion when it does not exist, there has been no truth more clearly proved, than that still greater inconveniencies and injuries are the consequence of believing there is no danger in visiting and attending the sick, when the disease is contagious. Surely, therefore, before the adoption of an opinion which, if false, would be attended with such serious and fatal consequences, the most indisputable proofs should be exhibited.

Notwithstanding the difficulties which attend all inquiries into the nature and properties of contagion, and the influence of various causes on its operation, there are but few subjects on which people in general are so well agreed. And if men of erudition had trusted to the testimony of their senses,

instead of the fallacious pictures of their imaginations, many countries and cities would have escaped the dreadful scourge of the plague, the contagious nature of which, as well as that of the yellow fever, has been openly denied by men who have roved among the planets in search of causes, instead of attending to the phenomena and occurrences before their eyes.—The reasons most commonly advanced in support of this extraordinary opinion, were, because many of the attendants on the sick were not affected, because its progress was fluctuating, and it was most prevalent and mortal among the poorest classes, and might be owing to poverty, unsound food, unwholesome water, and many other supposed causes. That this mistake was eventually the occasion of the most dreadful calamities, is well known to those who have read the history of the plagues which have been imported from the Levant, at different times, into the cities of Europe. Similar opinions have of late been attempted to be revived in this country; but I hope the recent experience, and the good sense of the people, will preserve them from adopting so erroneous and mischievous a doctrine, which has a tendency to relax the vigilance of those stationed at the post of danger.

It is a fact well known to those who have had the charge of prison-ships or transports crowded with men, that it is not only from a direct communication with the sick that contagious fevers are

occasioned and propagated, but from the persons and clothes of those that have lately been sick, or that have even remained long in an infected atmosphere ; that is, in that portion of the atmosphere that surrounds the sick, which being received into woollen, cotton, silk, and many other porous materials, not excepting timber and furniture, are capable, after having been conveyed a great distance and preserved a great length of time in situations excluded from fresh air, of producing the same effect as an immediate communication with the sick themselves : of this fact, the examples on record are so numerous as to put the matter beyond the possibility of a doubt. It has also been observed by several late writers of distinguished talents and information, that the most highly contagious fevers, in clear and well ventilated hospitals, do not in general affect the patients lodged in the same ward, but the nurses only, and those patients or other persons that assist them in taking them out or putting them into bed, or those that lie in the beds contiguous to, or very near them. The same observation applies to private families in large, clean and ventilated apartments ; for there it is rare for any persons but those who are under the necessity of sleeping in the chamber, or of approaching so near the sick as to be sensible of the warmth or exhalations from his body, to be infected, especially if they guard against standing opposite to the course of the wind when the windows are open ; for the matter of contagion,

like noxious gases, only operates injuriously when concentrated and unmixed with pure air, and is harmless when diffused in the unconfined atmosphere.

The ingenious Dr. Hunter, who had charge of the military hospitals in Jamaica in the years 1781, 1782, and 1783, remarks that the typhus gravior* (which is known to be contagious in temperate climates in all close, unventilated and uncleanly situations, crowded with people) was never contagious in the hospitals of Jamaica, though they were frequently crowded with patients with diseases of different descriptions. Dr. Lind informs us, that this fever, so extremely contagious on board ships, was seldom contagious in the clean and airy hospital of Haslar in England.

Both these authors, as well as the unrivalled Cullen, are decidedly of opinion, that the contagion of fever received and retained in the wearing apparel and bedding of the diseased, is the most dangerous mode in which it can be communicated, and is much more certain in producing fever than when it first issues from the body of the patient. In support of this opinion, Dr. Lind appeals to the circumstance of the naked slaves from Africa escaping, while the convicts sent to America with dirty foul clothing, generally suffer by it during

* The common contagious continued fever of camps, hospitals and prison ships, &c.

their voyage, though much less crowded than the unfortunate slaves. It is also well known to those acquainted with the present state of medical knowledge, or that have been employed in military hospitals or prison ships, that the fever which originates in confined and foul situations crowded with people, is of a continued form, and is contagious in winter as well as at other seasons of the year; which we now know is not the case in temperate climates with either the plague or the yellow fever, both of which prevail or become epidemic only in the latter part of summer and during the autumnal season; and which have so many symptoms in common, and have their principal seats in the same parts of the system, as dissections demonstrate, that if there is any dependence on analogy, they originate from the same cause and are only different degrees of the same disease, varied in some respects by difference of climate.

We now know from repeated observations, that the contagion of the yellow fever, like that of the pestilence, requires a certain range of temperature, as well as a calm or stagnant condition of it, to enable it to operate injuriously on the principle of life. When the temperature of the atmosphere is above 80, the contagion is volatilized and dissipated: when as low as the freezing point, the caloric or matter of heat by which it is rendered volatile and active is detached, and it falls harm-

less to the ground.—This is illustrated by the poisonous juice of the West India cashu nut, which in a certain temperature rises into the atmosphere; and, though imperceptible to the senses, when it comes in contact with a tender part of the surface of the body where the cuticle is thin, it occasions a burning sensation and a painful eruption, which sometimes excites a considerable degree of fever.

I apprehend I have now proved the yellow fever to be a contagious and imported disease, by testimony that can neither be denied nor invalidated, and consequently that the doctrine of its domestic origin is palpably erroneous. This is a fact of great importance to the true interest of this country; for if the erroneous doctrine of the domestic origin of the disease was generally believed, foreign commerce would shun our dangerous ports, and the vessels of our merchants would be subjected to the inconvenience and vexation of a tedious and expensive quarantine in foreign ports. This has already been proposed at Marseilles, as appears from a pamphlet received from thence by the secretary of state. The industrious classes of our citizens, sore vexed by cheerless poverty, would seek some safer and more favourable situation, and the stately edifices of our cities themselves would soon crumble into ruins:—for few that deserve the name of rational beings, would be found so prodigal of health and life, however powerful their love of gain, as to

immigrate to, or venture to reside in the seat of pestilence and death.

The arguments of those gentlemen who contend, that the belief in the doctrine of the domestic origin of the disease would promote the interest of this country, resemble the arguments of the atheists, who maintain that the cause of morality would be promoted by the belief that there is no future state of accountability; a belief that would take off all restraint from triumphant vice, and all consolation from suffering virtue.

My observations however incline me to believe, that although the yellow fever is never generated in this country, it is communicated from one to another more readily and certainly when the atmosphere is replete with putrid exhalations, than when it is more pure or free from such exhalations. Prudence, therefore, dictates the propriety of removing from the city and its vicinity all putrefiable substances, and to promote coolness and ventilation during the hot season, as far as practicable; at the same time, I think our main force should be directed with energy and incessant vigilance to the source of importation; convinced, if that post was faithfully and effectually guarded, our health would not be endangered nor our interest and prosperity blasted by the disastrous calamity of the yellow fever.

Of the Symptoms which distinguish the Pestilential or Yellow Fever from the Bilious Fever.

BESIDES being distinguished from the bilious fever in the circumstance of contagion and the appearances on dissection, the pestilential yellow fever differs from every variety of the bilious fever, in the generality of cases that prove mortal, in the following symptoms, which strongly indicate that they not only differ in degree but in kind.

1st. In the circumstance of the sudden subsidence or intermission of all the most conspicuous febrile symptoms in the course of the third or fourth day from the attack, and the speedy succession of a more distressing and dangerous train of symptoms, viz. incessant retching, straining, and puking of mucilaginous or ropy fluids, but rarely any bile, accompanied with a burning sensation in the stomach, stricture, anxiety, frequent sighing and restlessness; and soon after, by a bilious or deep yellow colour of the whole surface of the body, which first appears in the eyes, previously inflamed and watery and gives them a muddy and dull aspect. The countenance also at this period is expressive of great misery and distress, contracted and ghastly.

2d. In the sudden subsidence of all the preceding symptoms, and return of temporary ease and

tranquillity, followed by vomiting of dark coloured matter resembling coffee grounds, accompanied with bloated and livid countenance, moist tongue, deadly coldness of the limbs, disordered and deluded intellects, apparently renovated strength, and finally convulsions. When, however, the chief force of the disease is exerted on the brain, instead of vomiting and restlessness, a deep lethargy pervades the senses, accompanied with hæmorrhages and purple spots and terminates in death.

A Review of the Different Methods of Treating the Yellow Fever.

SINCE the publication of Dr. Chisholm on the pestilential fever which appeared in Grenada in the years 1793 and 1794, in which he recommends producing a salivation as early as possible by means of mercury, as the most effectual and certain method of curing the disease, the same method has been adopted by the majority of the physicians of America: and its supposed good effects have been accounted for, upon the fanciful principle, first taught by Sir John Hunter, of curing one disease by creating another. But if my observations have not greatly deceived me, mercury has protracted the fever and retarded the cure in every case where inflammatory symptoms have predominated, and inflammatory symptoms do

predominate at the beginning of the disease in a considerable proportion of cases ; except it be given in doses sufficiently large to occasion copious evacuations from the bowels. Mercury has also invariably not only failed in curing, but has invariably accelerated the fatal event in all the cases in which I have seen it employed, either in large or small doses, when symptoms of malignity were evident. In more mild and simple cases, milder remedies proved equally effectual and much less hazardous.

It is true that in most cases in which salivation was produced the patient recovered, and generally without any subsequent bad effect ; whereas several have been reduced to the necessity of compounding for life with the loss of their hair, teeth, and even part of a jaw bone, and some with constitutions so impaired as to become walking spectacles of woe ! In some persons disposed to gout a small dose of calomel has impaired the digestive powers of the stomach and rendered the sufferer hypochondriac. The pain and debility it has sometimes occasioned, have thrown the patient into convulsions that have terminated in sudden death.

It was seldom possible to excite salivation in any case where symptoms of malignity were evident ; on the contrary, mercury appeared to force out life in rapid streams, and when salivation was excited in

mild cases, it was by no means a proof that the mercury occasioned the removal of the disease, but more probably that the cessation of the fever was the cause of the salivation taking place; for in simple and mild cases, a solution of the fever generally takes place without any remedy, on or before the fifth day from the attack.

In cases where mercury has been given or continued after evident marks of malignity have made their appearance, such as blue or dusky spots on the skin, great depression of strength, restlessness and hæmorrhages from the nose and mouth, or from the bowels, it has destroyed life with as much certainty and almost with as much celerity as lightning. We are informed by Kramer and Lind, that it once occasioned the same fatal effects among the Hungarian soldiers in the advanced stage of the scurvy.

Mercury was once in as much credit in the prevention and cure of the small pox as it has been of late in the yellow fever; but (with a few exceptions) is at present entirely out of credit in that disease, and would soon be the same in the yellow fever, if we were to judge of its utility from the abuse or misapplication that has been made of it, abuse which has attached the idea of horror to the very name of mercury. There are circumstances, however, sometimes attending this disease, in which

mercury has done the most conspicuous service, and in which it has most assuredly rescued many valuable lives from the grasp of death. The cases in which mercury has performed this extraordinary service, have been accompanied with evident signs of local congestion or effusion, and particularly in cases of coma, in which the dilated pupils indicated compression of the brain from congestion or effusion. Under these circumstances, it was given in large and repeated doses.

In the year 1744, salivation was recommended in the plague, in an Inaugural Dissertation by Mr. Lowry of Edinburgh, in conformity to the theory which was taught at that time, that all febrile diseases depended on morbid matter in the blood: a doctrine which has since been demonstrated to be extremely erroneous.

The sweating treatment, by the means directed by Dr. Warren of Barbadoes, and by cordial and stimulating remedies, and the external applications of heat and moisture, whether with or without a load of oppressive bed-clothes, as far as I have been able to learn, proved not only unsuccessful, but in the majority of cases that submitted to it was a speedy though painful passport to the grave.

When tension of the pulse, with hot skin, indicated inflammatory diathesis, and especially when

accompanied with pain in the head, side or stomach, in addition to the antiphlogistic regimen and frequent purging, by means of a solution of glaubers salts and tartarized antimony, blood-letting was of sensible service; and in some extraordinary cases, where no mercury was used, the symptoms called for it to a fourth or fifth time at the short intervals of eight or ten hours. In mild cases, where mercury was given in small doses so as to keep up an inflammatory diathesis, bleeding has been employed to an almost incredible extent, and in many cases without apparent injury; but as the disease was then an artificial one, and not the original fever, I leave it for others to determine the propriety of such treatment.

In general, in the most inflammatory cases, three moderate bleedings, when aided by the free use of cathartics, were the greatest number necessary; and it was for the most part necessary to restrict bleeding to the first three days from the attack of the fever.

In cases where the fever began with great and sudden prostration of strength, and the symptoms continued with great oppression and weight about the heart, accompanied with pale or livid countenance, low pulse and moderate heat, and such cases were numerous, bleeding did manifest and irreparable injury.

In a disease, therefore, which varies so surprisingly in different cases, no precise rules for blood-letting can be laid down; but the practitioner must be governed by the state of the system, which a careful examination of the leading symptoms will unfold to his view.—I do not pretend to explain the reason why the contagion acts as stimulant in one patient, and as a poison which expels or dissolves the vital principle in another, and leaves every fibre in his body soft, putrid and powerless; but repeated observations warrant me in asserting this to be the fact.

In cases where symptoms of malignity and great debility in the animal powers made their appearance early, or came on in the course of the disease, I think I have seen the fatal event longer retarded by the liberal use of sulphuric acid sufficiently diluted with water; washing the patient's body and limbs at the same time two or three times a day with cold wine, or brandy and water, than by any other remedies. The body and limbs were wiped dry after every washing, and covered from the air for some time. If sensible strength succeeded the washing, it was encouragement to proceed with it in the same manner. When that was not the case, warm applications were substituted.

When that dreaded symptom, the black vomiting,* made its appearance, which was very common towards the close of life, accompanied with cessation of pain, moist tongue, cold extremities, and pulse slower than in health, no remedies that I have ever seen tried were of much avail—though some medical gentlemen in New York declare that they have recovered a great many in that condition by means of the free and frequent use of simple lime-water and sweet milk. Some instances have also been recorded, in other places, of the disease being cured by the liberal use of brandy and water taken cold.

The cold bath, as recommended by Drs. Wright, Jackson, M^cClean and others, was repeatedly tried in the early stage of the disease in the year 1793, in Philadelphia, but without the beneficial effects that were expected from it; in consequence of which it has not been resumed here. In the West Indies, those gentlemen still persist in declaring it succeeded, after the early loss of from 15 to 20 ounces of blood, an active cathartic, and previous immersion in the warm bath, the patient being put to bed immediately after the application of the cold water, and taking mild tepid drinks. This process they advise to be renewed, without the bleeding,

* The judicious experiments lately made by Dr. I. Cath-rall, decidedly prove that the black matter thrown up by vomiting in the last stage of this fever, is neither vitiated bile nor putrid blood.

in a few hours, if the fever does not sensibly subside and the patient feel relief.

In the year 1797, Dr. Hodge employed full vomiting in the early stage of the fever, after moderate bloodletting, with remarkable success; for of seventy patients which he treated in this manner, he lost but three.

Wine, bark and opium, so frequently beneficial in bilious and typhous fevers, were found decidedly injurious in every case of the yellow fever—a fact which affords an additional argument in confirmation of the doctrine, that it does not only differ in degree but in kind from the bilious fever of this country.

When the febrile symptoms suddenly subsided, and were shortly after succeeded by incessant inclination to vomit, with great restlessness and sighing, which in dangerous cases generally occurred on the third or fourth day from the attack, moderate and repeated bloodletting, clysters, and blisters to the stomach and thighs, and the liberal use of cool acidulated drinks, were the most successful remedies, although the apparent debility seemed to contraindicate their use. In the latter stage of dangerous cases with typhous symptoms, unconnected with symptoms of inflamed stomach or congestions in the brain, liver, or any of the other viscera, boluses of

volatile salts, instantly followed by a table spoonful of lemon juice diluted with cool water, and in some cases camphorated vinegar, have been employed with apparent benefit. Port wine and porter, as well as every other remedy that stimulated considerably or suddenly, aggravated the disease; whereas the diluted juices of fresh vegetables, particularly of lemons, oranges, grapes and currants, bottled small beer and mead, were not only frequently beneficial but highly grateful to the patient.

Dr. Ferriar of Manchester has found the nitrous acid in doses of half a drachm, given three times a day, very useful in the latter stages of the common typhus, or low nervous fever.

Dr. Garnet of Glasgow and Dr. J. Currie of Liverpool have found still more beneficial effects from the use of the oxygenated muriate of potash, in doses of from three to six grains according to Dr. Garnet, and fifteen grains according to Dr. Currie, who directs it to be increased according to its effects, and remarks, " Sometimes it seems as inactive as any other neutral salt, but at other times it very much increases the heat of the body."

As in malignant cases of every kind of fever there appears to be an extraordinary deficiency of oxygene, if we may judge from the colour and consistence of the blood, medicines which contain the

greatest portion of that material, and part with it most easily, promise to be the most useful remedies. On this principle, the oxygenated muriate of potash will be found superior to any other remedy at present known; for “about seventy-five inches of extremely pure oxygen gas may be procured by means of heat from one hundred grains of this salt, to which the oxygen is so loosely attached that it is disengaged even by the light of the sun. It is rapidly disengaged, and combines with combustible substances, as is evident from its detonation with sulphur, and still more violently with phosphorus. We may therefore conclude, it will be readily decomposed by the carbon and hydrogen in the blood, and increase the proportion of oxygen, and prevent any further tendency in the solids to gangrene.”*

* Annals of Medicine for 1797 and 1798.

ADDITIONAL FACTS

And Observations respecting the Origin of the Yellow Fever in New York last Year, with an Account of the most successful Method of treating it. Communicated by Dr. D. HOSACK, Professor of Botany and Materia Medica, &c.

“THE ship Gen. Wayne came to Ten-Eyck’s wharf (at Coentie’s slip on the East river) the 14th of July last, and began to discharge her cargo the next day or the day following. Mr. Olmsted (the clerk of Alderman Coles) and F. Barber (the clerk of Messrs. Duryee and Heyer) visited the Gen. Wayne on or about the 17th of July while the cargo was discharging. The former was taken sick the 19th or 20th and died on the 26th of the same month: the latter was taken ill on the 20th and died on the 27th—(Attested before Alderman De La Montagnie by Mr. W. Leacraft, inspector of the customs.) Michael Galor who also visited the Gen. Wayne while discharging her cargo, was taken ill with fever the 20th of July and died on the 26th. David Sturgis, who bored some of the

boxes of sugar belonging to the Gen. Wayne, was taken with the fever the 21st of July and died on the 28th.—(Attested by Mr. Ch. Duryee.) Brom Johnson, who assisted in discharging the cargo, was taken ill with fever on the 20th of July, but recovered.—(Attested by Mrs. Winans at whose house he was taken ill.)

A sloop called the Farmer lay at the same wharf with the Gen. Wayne while discharging her cargo. About the 20th of July, on her passage up the North river, Abram Schoonmaker, the master of the sloop, and John Ploegh, were taken ill on board, and both died, the former on the 26th, the latter on the 27th of July. Dr. Vander Lyn, of Esopus, declares, that he saw John Ploegh the day of his death, that he had the black vomit, and that his eyes and skin were of a deep yellow. Schoonmaker's tongue was very brown and his skin considerably yellow.

Joseph Doughty, merchant, of Dutchess county, declared before one of the aldermen, that he was taken ill with fever on the 20th of July, soon after leaving Coentie's slip, where he had lodged on board Captain North's sloop, which lay alongside or near to the Gen. Wayne while she was discharging her cargo.

Eleazer Cottrill landed a quantity of fire-wood from on board the schooner Hypogryph in Coen-

tie's ship while the Gen. Wayne lay there, and on board of which it was proved on oath he had been, and was taken ill with fever soon after, of which he died at Middletown, New Jersey.

William Schooly, one of the hands belonging to the Gen. Wayne, has also given a certificate, published in the Argus of Sept. 9th, 1799, in which he declares, that “ during the time the vessel lay at the Havanna, two of the hands died of the yellow fever, and were buried on shore: the evening after the vessel sailed from the Havanna, on her return to New York, one man died of the same disorder, and on the second day another, who were both thrown overboard: and that on or about the 14th of June, when he was impressed and taken on board a British man of war, nineteen of the crew were ill of the yellow fever, and only four men and the Captain well on board.” The declaration of William Schooly, however, appears, from the manifest taken in the cabin of the vessel on the 22d of June, immediately after her arrival at the quarantine anchorage at Staten-island, to be incorrect with respect to the number sick at the time of his impressment, though it appears to agree with the manifest in other respects.

Dr. Bayley acknowledges,* that some of the hands had died on board before and after her arri-

* See the preceding Sketch at page 54.

val at the quarantine ground. He, however, still maintains that the disease was not introduced into New York last year by the Gen. Wayne or any other vessel, but was generated by the mud and putrid materials of Coentie's slip.—In support of this opinion, he asserts, that the yellow fever in the years 1797 and 1798 made its appearance on the very same spot, in the same month, and within a few days of the same time. In addition to this declaration, he asserts, several cases of yellow fever had occurred in New York before the arrival of the Gen. Wayne. That there were a few sporadic cases of the yellow fever in New York is acknowledged by Dr. Hosack, who has explained it upon a very different and in my opinion much more satisfactory principle than Dr. Bayley, who most evidently confounds the yellow fever with the common remitting fever of warm seasons and marshy situations, to which it bears no more analogy than the small-pox or measles. It must be acknowledged, however, that Dr. Bayley has supported his opinion with much plausibility, and an ingenuity that indicates considerable talents.

For the defence of his opinions, and the circumstances on which he rests his belief that the yellow fever is not a contagious disease, the reader is referred to the New York Gazette, of the 16th of January last, printed by Mr. John Lang.

Extract of a Letter from Dr. G. Blane, a Gentleman of the first Medical Reputation in England, to an Official Character at the British Court, from the United States of America, dated London 26th November, 1798.

“ THE adopting of measures for the prevention of disease, is one of the most important duties of a wise and patriotic government, and the discovery of these means, as well as the efficiency of the steps to be taken, must depend on a thorough knowledge of the causes by which it is excited and influenced. My opportunities upon actual service in the West Indies, in the late war, when physician to the fleet under the command of Lord Rodney and Admiral Pigot, and my present official duty as a member of the medical board of the navy, have necessarily brought to my knowledge a number of facts relating to this subject; and I shall be extremely happy, if the communication of some of the most important of them can throw any light which may prove useful to the American government, in checking an evil so afflicting and calamitous.

“ The first question that occurs with a view to preventive measures is whether this disease be infectious, and under what circumstances it is so?

“ In those situations in which I observed it in the West Indies it was evidently so. There was the

most incontestible evidence of this both on board of ships and at hospitals, and the doubts which have arisen on this point, seem to have arisen from the effects of infection, being blended with those which arose from other causes.

“ But whatever doubts there may be on this subject in the West Indies there can be none in the climate of North America. This will be the best proved and illustrated by an example :

“ On the 16th of May 1795, the *Thetis* and *Huffar* frigates captured two French armed ships from Guadaloupe, on the coast of America. One of these had the yellow fever on board, and out of fourteen men sent from the *Huffar* to take care of her, nine died of this fever before she reached Halifax on the 28th of the same month, and the five others were sent to the hospital. Part of the prisoners were removed on board of the *Huffar*, and though care was taken to select those in perfect health, the disease spread rapidly in that ship, so that near one-third of the whole crew was more or less affected by it.

“ This fact carries a conviction of the reality of infection as irresistible as volumes of argument ; and it further affords matter of important and instructive information, by proving that the infection may be conveyed by men in health.”

Copy of a Letter from Doctor Hosack, dated New York, February 22d, 1800.

“ DEAR SIR,

“ I received your favour of the 19th inst. requesting any evidence in my possession, relative to the origin of the *yellow fever* as it appeared in *New York* during the last summer.

“ In reply to your request, I believe there have been two sources of the disease of the last year; the one I believe to have been the remains of the *poison* of the preceding year, where care had not been taken to cleanse or destroy the clothing and bedding of the sick. It is also possible that goods which may have become charged with infection from being exposed in the atmosphere in which the disease formerly prevailed, may have given origin to some cases of the disease which appeared the last summer. It certainly accords with the observations of practical writers, that infection is not totally destroyed in a single season. Upon this principle I should be very much surprised if the yellow fever should entirely disappear in one or even two years after the most rigid quarantine that could be devised. But in my opinion this was not the *only source* of the disease of the last summer.

“ I enclose you a copy of the testimonies relative to the importation of it by the ship Gen. Wayne.

These testimonies have been collected by a very worthy and respectable man, Mr. Thomas Storm. Some time after Dr. R. Bayley, our health officer, published some remarks with the view if possible to remove the impression from the minds of our citizens which they were calculated to produce; a copy of which is also enclosed. You will observe, he premises a declaration, that the yellow fever appeared in this city before the arrival of the Gen. Wayne, and refers to three or four persons as examples, and quotes Dr. Miller and myself as the physicians who attended one of them. It is true Mr. Stephenson died of the yellow fever; but if the foregoing *principle* be just, it will account for his case, viz. exposure to the latent infection of the preceding year revived and rendered active by returning heat, which may have been retained in goods, &c. To this I can add the case of another person whom I visited, before the arrival of the *Wayne*, at the New York hospital ill of this disease: this person arrived in a vessel from the Havanna. He told me that some others had been ill on board the same vessel on her passage, and had died of the *yellow fever*. As he had all the characteristic symptoms of the yellow fever, I reported him at the health office; he was directly conveyed to Staten Island, where, I am informed he died a few days after.

“ *When we thus find persons ill with this disease, or coming from infected ports, without passing through a regular quarantine, permitted to come to the city with their vessels, we should not be surprised, that cases of the yellow fever appeared in New York before the arrival of the Gen. Wayne.*

“ In the same letter of Dr. Bayley, he tells you that it appeared precisely at the same spot where it had appeared in 1797 and 1798. But, he has omitted to add that it very soon prevailed in Barclay street, in Warren, Murray and Chambers streets, *a part of the city which had been heretofore proverbially healthy.* Whether it was not communicated by contagion to this part of the city you will readily judge.—These streets have *no repositories of filth*, no funken; new-filled lots, no sewers, no dead horses half buried to poison the atmosphere. If it were the product of the corrupted atmosphere of Coentie’s slip, and is not contagious, how did it get into this part of the city?

“ Before I conclude I must add another fact which, in my opinion, is very much opposed to the favourite doctrine of our *home-generating gentlemen.* Our inspector general of beef, Mr. Edmund Prior, a well-informed and careful observer, informed me that of 40 persons whom he had employed during the last summer in examining the beef, and in removing and emptying such barrels as were found

in a *putrid state*, not one was taken ill with the yellow fever while employed in that service ; and what affords still farther confirmation that this is not of itself a source of yellow fever, 38 of the 40 were seized with a complaint of a very different nature, the *dysentery*.—The remaining two left him and for several days worked on board vessels, were seized with the yellow fever, of which they died.—Their systems it seems were susceptible of the poison of the yellow fever, but the putrid beef produced no other effect than it usually does in all other countries. You will find in Pringle and several other writers similar facts.

“ As a proof of my candour and impartiality on this subject, and as an apology for my *seeming* inconsistency, I must inform you that in the year 1798, in which the disease was ascribed here to the *effluvia* of *putrid beef*, having received information that Mr. Roorbeck, on Long Island, had received the yellow fever, of which he died, from opening and handling a barrel of putrid beef which had floated upon the shore where he resided, I communicated this fact as I then considered it, to Drs. Lettsome, Pearson and Marshall of London, and to professors Gregory, Duncan and Hamilton of Edinburgh, as an evidence opposed to the opinion I had previously entertained and expressed : I also added, if that fact should be established I should not hesitate immediately to renounce my former

opinion of its foreign source. But I have since been informed by a gentleman, who at that time resided on Long Island, that Mr. Roorbeck, a few days before his illness, visited a person ill of yellow fever, who had contracted it in New York, which at once invalidates the pretended and important fact of his having received it from the putrid beef. In the above expression of foreign source, please to observe, I do not undertake to trace it to *Siam*, or any particular climate or country, but consider it as one of the same mysterious family of diseases with the small-pox, measles, plague, and many others whose specific causes are unknown.—Here I must end for the present.

Yours sincerely,

D. HOSACK.

DR. CURRIE.

*Copy of a second Letter from Dr. D. Hosack, dated
March 3d, 1800.*

“ THIS morning I received yours of the 28th Feb. requesting permission to introduce my last, with the documents inclosed, into your publication. Although it was written in haste and only intended for your own inspection, if you shall judge it worthy of being made public, you have my permission to make such use of it as you may think proper.

“ I shall now add a few observations on the treatment, in addition to those contained in the Inaugural Dissertation of my brother, reprinted in your city in 1797, by Mr. Dobson, but must premise the view of the disease which led me to adopt the mode of treatment I pursued, and which may not have been sufficiently insisted upon in that Dissertation.

“ I consider fever to be of two kinds, either arising from the sensible changes of the atmosphere, or from a matter of a peculiar quality, introduced into the system: of the first kind are simple inflammatory fever, pleurisy, acute rheumatism, inflammation of the brain, stomach, intestines, and all those diseases which are purely inflammatory. Of the latter class of fevers are small pox, measles, chicken pox, influenza, hooping cough, scarlet fever, dysentery, yellow fever, plague, &c. &c. arising from certain noxious matters introduced into the system, which remain in it a certain length of time, producing more or less violent operation in proportion to the virulence of their nature, and at length “ wear themselves out,” leaving the body more or less debilitated, according to their duration or their violence of action.

“ I have introduced this observation to illustrate the analogy which I suppose to exist in a certain degree between yellow fever and all those diseases

which arise from foreign matter introduced into the system. In the treatment of this class of diseases, there appears to me but one principle to be pursued: to attend to the different functions of the body, that the action of the poison may be rendered as moderate as possible, and that every other source of irritation be removed, until the cause producing the disease be entirely exhausted: and that the means of accomplishing this indication be such as least debilitates the body.

“In the management of yellow fever I have applied the same doctrine; in this disease there is a peculiar poison introduced, which like the poison of the plague, or of a venomous serpent, produces violent irritation and fever, with a derangement of all the functions of the body.

“When thus introduced, the principles of my practice have been to moderate its action, and to remove every other source of irritation: both of these indications I believe may be generally accomplished by the same means, the chief of which appear to be—first, to remove from the bowels any matters which may aggravate the disease.

“Secondly—To restore the perspiration, which is for the most part obstructed. I make this last a separate article in the cure of this disease, inasmuch as the matter discharged by perspiration even in

health is of a noxious quality (as is proved by the late experiments of Mr. Abernethy of London) and if retained must add greatly to the fever and vitiated state of the fluids which take place in this disease. As to the medicines I have employed in accomplishing these intentions, and the different remedies adapted to the peculiar condition and circumstances of the patient, I can add nothing more to what are detailed in the above mentioned dissertation: they are the means I have experienced to be the most successful. But that part of the treatment upon which I am disposed to place the most reliance, is sweating. Common observations have long since established the importance of this remedy in fevers in general: but I was more particularly directed to the advantages and necessity of attending to this remedy in the treatment of the yellow fever, by Dr. John Bard of this city, and the writings of Dr. Warren, in his history of the yellow fever of Barbadoes.

“ If there is a specific in the cure of any disease; if the Peruvian bark is to be relied upon in the cure of intermittent fever, sweating, when induced within *the first twelve hours* from the commencement of the disease, I believe I may venture to assert is a no less certain remedy in the cure of yellow fever. In short, so strongly is my mind impressed with the salutary nature of this discharge in yellow fever, and I have been so rarely disap-

pointed in its effects, that when I find my patient sweating within a few hours after the attack of the disease, I congratulate him as secure from danger, provided it be continued a considerable length of time, thereby urging him to the diligent use of the means prescribed for accomplishing it. It is a remedy I most sincerely and devoutly recommend to your particular consideration and attention; but to secure its good effects, I again repeat the remark, that it must be employed as early as possible, after attention to the bowels, which should be the first object of the physician's prescription.

“ Having been actively employed in the yellow fever of 1798 and 1799, I had an opportunity of pursuing this mode of treatment upon an extensive scale, and am prepared to bear the most unequivocal testimony in its favour. In the year 1798, Dr. Samuel Bard and myself visited and attended about 550 patients with this disease—of this number we lost between 60 and 70.—In 1799 I attended 98 persons and lost 12.—Although the fatality of 1799 is nearly in the same proportion with that of 1798, there is a very material difference as it regards the practice we pursued and the condition of the patients in those different years.—In 1798 we lost many persons of great respectability, and who were so situated as to obtain every comfort which sickness requires.—In 1799, except those I visited in consultation with other physicians,

which cases are not included in the list of my patients, I did not lose more than four where they had the advantages of good nursing, comfortable lodging and pure air. In 1798, upon receiving the Narrative of Bryce on Yellow Fever, in addition to the testimonies of Dr. Rush, Dr. Chisholm and others, in favour of mercury, both Dr. Bard and myself resolved to employ it with the expectation that it would prove a valuable auxiliary to the practice we then pursued. We accordingly employed it agreeably to the plan recommended by those gentlemen. We gave it in the first instance with a view to its purgative effects, in doses of ten grains—afterwards continued it as an alterative, in doses of two grains, and in many instances in conjunction with opium, to secure, if possible, its operation upon the salivary glands. In this manner we administered it to our patients for the space of a fortnight; but that fortnight was a fatal period in our practice. During that short space of time near 40 of our patients fell victims to this mode of treatment. I trust the friends of the deceased will forgive me for this candid declaration, when they reflect upon the motives which induced us to make this alteration in our practice. In every case wherein it proved fatal, it appeared to produce its effects by the irritation it excited in the stomach. For I rarely introduced mercury in the yellow fever where it did not excite vomiting, or at least such a degree of nausea as prevent-

ed the stomach from receiving a sufficient quantity of drink to operate upon the secretions; but in many instances vomiting was induced by the first dose which was exhibited and did not cease until the death of the patient. Salivation was very rarely produced by the use of this medicine.

“ Having been thus unfortunate in the use of mercury, we immediately returned to our former mode of practice, which again proved as *successful* as the mercurial treatment had been fatal. The last patient to whom I exhibited mercury was the sister of Mr. Edmund Prior. Her situation became extremely dangerous, but she recovered after six weeks illness. Compare her situation with the other members of Mr. Prior’s family who were treated by the sudorific plan, as stated in the advertisement published by Mr. Prior, under the signature of a Citizen, after his recovery from a severe attack of this disease.

“ If it were necessary I could subjoin many testimonies of a similar nature, in favour of the treatment by purging and sweating, which has now become very general with our practitioners.

“ But it has been objected to the sudorific practice by the advocates for the lancet, that it is very difficult to produce perspiration. I grant that it is in some instances attended with difficulty, but I

have as generally remarked that this difficulty proceeded from the slovenly and careless manner with which the remedies for this purpose are employed: but in the greater number of cases the perspiration immediately follows the operation of the remedies made use of to open the bowels. These are salts dissolved in a large quantity of water-gruel, given warm and very frequently until they produce sufficient discharges by the bowels, aided in their operation by frequent draughts of warm gruel or warm lemonade. I also very particularly enjoin it upon my patient to remain in bed during the operation of his medicine, and strange as it may appear, I add one or two blankets to the bed covering usually employed in the summer season, that the atmosphere immediately surrounding the body may become warm and thereby relax the excretory vessels of the skin. Its process is generally succeeded by a very general and profuse discharge. Where it is not sufficient, I employ bricks heated and steeped in vinegar, with fomentations of vinegar and water to the legs. In some instances I have kept the lower extremities immersed in a vessel of warm vinegar and water for half an hour or upwards; at the same time supplying my patient with warm drinks until the surface of the body becomes relaxed.

One of the most obstinate cases which I have met with in practice occurred last summer: the patient

was Jonathan Burrell, Esq. of this city, cashier of the United States branch bank. He was attacked with the usual symptoms of this disease, pain in the head, back and limbs; countenance flushed, eyes loaded, skin hot and dry, pulse frequent and hard. I immediately prescribed for him salts and warm drinks in the manner before mentioned. After their operation his symptoms continued to increase, attended with a great propensity to sleep, bordering on stupor—his skin remained hot and dry, without the least appearance of perspiration. Finding the above remedies were ineffectual, I immersed his legs in a vessel of warm water and vinegar, supplied him largely with warm drinks, at the same time kept him well covered with his bed-clothes while sitting upon the side of the bed. In this situation he remained upwards of half an hour, when he became faint, his skin relaxed and moist, and was followed with a most profuse perspiration, which was continued by means of warm drinks for the space of three days, when his fever was entirely removed. During the whole of this process he remained in bed, without change of bedding or clothing—this I consider a very necessary regulation during the febrile stage, and an essential part of the sudorific treatment.

Another circumstance of great importance in this mode of treatment, is, to continue the perspiration without the least intermission until the fever is en-

tirely removed : for the least check that is given to this discharge is very apt to produce irritation at the stomach, which, if not speedily removed, is followed by that distressing and characteristic symptom of this disease the *black vomit*. In this stage of the disease I have frequently employed blisters to the region of the stomach with great benefit ; but I have generally remarked, that they were rendered much more effectual in their operation by the continuance of fomentations to the extremities.—When the heat and burning at the stomach are not relieved by these remedies, and *black vomit* succeeds, we have little to hope of success from any source whatever. *Tea* and the *saline mixture* have occasionally given relief in this desperate period of the disease ; but there is one species of the black vomit wherein the matter discharged exhibits the appearance of coffee-grounds, in which I have been more successful in the use of lime-water than with any other remedy—but that species of black vomit, wherein the matter discharged appears in the form of *black flakes* indicating a destruction of the coats of the stomach, I have never seen removed by lime-water or any other remedy. But in the first mentioned species, if it were necessary I could enumerate more than twenty cases, wherein this generally fatal symptom has been removed and the patients recovered by the use of the lime-water. In the following advertisement Dr. Bard bears witness to its success in these cases : if it were required he could add

his testimony that many others were cured by the same means.

“ *Messrs. McLean and Lang,*

“ A paragraph appeared in your paper of this morning, recommending various alkalescent substances as antidotes to the poison of infection : It may perhaps in some measure confirm this doctrine, and at the same time serve the cause of humanity to have it publicly known, that lime-water mixed with an equal quantity of new milk has been found by Dr. Hofack of this city not only a safe and easy way of exhibiting this remedy, but so efficacious as actually to have cured (by this prescription) three cases of black vomiting ; and that in every instance in which it has been exhibited (and they are not few) it has relieved the uneasiness and burning at the stomach and checked the vomiting, which are such painful and alarming symptoms of the prevailing epidemic. Convinced from my own observation of the great efficacy of this safe, cheap and agreeable remedy, I think it becomes a duty to give it all the publicity in my power : and without supposing my name will prove any greater recommendation of it than that of my fellow practitioners, I subscribe it only in evidence of the fact.

SAM^l. BARD.”

Sept. 6th, 1798.

“ I shall also subjoin the following testimony of Dr. Charlton, President of the Medical Society.

“ DEAR SIR,

“ A case of black vomit relieved by lime-water, which I at present recollect, was that of West, whom I attended with Dr. Hamersley in '98. Last year, you know, I was out of town. This was a decided case, and was attended with hæmorrhage from the nose. The use of lime-water was, in this instance, attended with the happiest effect.

Yours sincerely,

JOHN CHARLTON,

March 4th, 1800.

DR. HOSACK.”

“ Many respectable practitioners in this city have informed me that they have exhibited this remedy with great advantage, not only in removing the black vomit, but in allaying the *heat, burning, and pain at the stomach*, which are the usual precursors of the black vomit—but with many other medical gentlemen both in New York and Philadelphia, I find that lime-water has acquired but little reputation. Their want of success in the use of it I ascribe to several causes: the first is, that it was not employed until every other remedy had failed; several instances of this sort I have met with, in which it was not administered until the pulse was scarcely to be perceived, the extremities cold, and the vomiting had been of more than 24 hours continuance,

in which time the powers of life were nearly exhausted. A second cause of want of success is, the exhibition of other remedies at the same time that the lime-water is employed. I have frequently observed those gentlemen who are partial to the use of mercury, to continue the use of that medicine at the same time the lime-water was given. As the operation of mercury generally produces irritation at the stomach, nausea and vomiting, it is scarcely to be expected of lime-water or any other remedy to compose the stomach under those circumstances. I should as readily expect that lime-water would allay vomiting at the moment *tartar emetic* was exhibited with the view to excite it.

“ A third cause of the unsuccessful use of lime-water is the want of perseverance in the use of it. I was credibly informed, that a practitioner in this city who stands high in his profession, upon hearing of this remedy, administered a single dose of it, and upon its failure has never employed it a second time, but affects to despise it as inert and useless.

“ When I first employed lime-water in the yellow fever, I generally directed it to be mixed with an equal quantity of milk, and a wineglass-full of the mixture to be given every hour. Since that time, I have in several instances given it in porter with benefit, where the mixture of it with milk was rejected. A Mr. Graham, whom I visited last summer, on Long Island, is a striking example of the advantage

of this combination. Porter when given alone never failed to excite heat and pain at the stomach, which continued until it was discharged by vomiting; but mixed with the lime-water those symptoms were all allayed, and by the continuance of this remedy he was restored to health.

“ If the above rude and hasty outline of my practice in yellow fever may contain any hints which may prove of public utility, you are welcome to make such use of them as you may think proper.

I am, Sir, with great respect and esteem,

Yours,

DAVID HOSACK.”

POST-SCRIPT BY THE EDITOR.

My review of the fudorific plan of treating this disease was printed before I received Dr. Hosack's account of its success in New York: and as it only applies to the mode in which it was conducted in a few cases in Philadelphia, it by no means applies to the mode of conducting it which he so forcibly recommends on the authority of repeated facts.

From the experiments lately made by Dr. Cathrall, it appears that lime-water produces its salutary effects by correcting the corrosive acid which is generally contained in the stomach at the time the black vomiting commences. On this principle calcined magnesia would have a similar effect.

MARCH 13th, 1800.

THE END.

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